FOREWORD

National Council of Teacher Education in its curriculum framework has suggested a programme of Core Training Skills. The programme envisages skill based training. Obviously, student teaching is also to be skill based. Several universities in different states have incorporated this recommendation in their teacher education programmes. As a consequence, microteaching has been introduced in a number of Colleges of Education, University Departments of Education. There is resultant demand for instructional material for microteaching. Keeping this need in view, the Department of Teacher Education has prepared a teacher educator's handbook on microteaching.

The mimeographed draft has been prepared by Dr. N.K. Jangira, Reader, and Dr. Ajit Singh, Lecturer, in the Department of Teacher Education. Theirs is much needed effort as instructional material on microteaching suited to Indian conditions is much in demand. The draft is meant for try out in the training courses being organised by the Department. It is hoped that the teacher educators will communicate their reactions to the authors. Their comments, observations and suggestions will be helpful to the Department for further improving the manuscript. Further, it is hoped that the material will be useful to the teacher educators in using microteaching in their colleges of Education to strengthen student teaching programmes.

NCERT, New Delhi.
11.8.1980.

(R.C. Das)
Head
Department of Teacher Education

P R E F A C E

Microteaching has been accepted by a number of Colleges of Education for strengthening its existing student teaching programmes There, is however, a paucity of instructional materials suited to the conditions prevailing in our Colleges of Education. Keeping this need in view, the Department initiated working on the handbook for teacher educators in this area. On the basis of our experience with teacher educators using the available material, we developed preliminary draft material based on autoinstructional approach. Moreover, the approach is such that it keeps the reader active through various means. He does not remain to be a passive. This ensures a sense of involvement on the part of the reader. We hope that the approach will be appreciated by the readers.

The handbook consists of ten units. The first five units deal with the concept and practice of microteaching followed by its organisational steps. The remaining five units deal with five teaching skills units. Each of the units covers one teaching skill. Thus handbook will be helpful to the teacher educators for organising microteaching in their respective College of Education. effectively.

We feel a deep sense of gratitude to Prof. R.C. Das, Head, Department of Teacher Education who not only inspired us to write this handbook, but also provided guidance from time to time. We are also grateful to Prof. B.K. Passi, Dr. K.K. Sharma, Shri P.S. Anand, Dr. R.C. Hooda, Dr. S.P. Kulshreshta and Shri K.G. Sharm for useful discussion in connection with the material.

The readers are requested to send to the authors observations, comments and suggestions for further improvement of the draft. The suggestions may be in respect of (a) content of the units; (b) the coverage of essential points; (c) the comprehensability of the language; and (d) mode and quality of the presentation.

NCERT, New Delhi

11.8.1980

N.K. Jangira
Ajit Singh

UNIT ONE - INTROSPECTION

OVERVIEW

The quality of education we provide to our children depends, in a large measure, upon the quality of teachers we inject into the educational system. Other things remaining equal, the quality of teachers, in its turn, depends on the quality of preparation they receive in our teacher training institutions. Out of your association with teacher training institutions over a period of time, you have formed certain notions about the existing teacher training programmes. The present unit purports to assist you to reflect on the teacher training programme in general and student teaching programme in particular. Your valuable experience in this field, it is hoped, will prove rich food for reflection.

OBJECTIVES

Upon reading this unit, you are expected to realise the objectives outlined in the box given below.

---

* Know the salient features of the student teaching programmes being offered in our Teacher Training Institutions.

* Know the strengths of the existing student teaching programmes.

* Know the specific weaknesses of the existing student-teaching programme.

* Examine the student teaching programme offered by your institution for its effectiveness.

* Initiate thinking about the directions for improving effectiveness of the existing student-teaching programme offered in your institution.

THINK A WHILE

You have been working as a teacher educator over a period of time. You must have gained valuable experience in implementing teacher training programmes in the process. Your interaction with other fellow teacher educators and student teachers must have further enriched your reportoire of information regarding the adequacy and effectiveness of the teacher training programme in general and student teaching programme in particular. Think a while on various aspects of the programmes keeping the questions given in the box in focus. Also keep into focus the programme offered by your institution, while reflecting on the questions. You may concentrate on the questions in the upper half of the box first. Then pass on to the cued questions in the lower half of the box.

training

> What do you feel about the effectiveness of the teacher training programme being offered by our institution? Do you feel that the student student-teachers are satisfied with the programme ? If not, what are the reasons ?
>
> What are the salient features of the student-teaching programmes offered in our teacher training institutions ?
>
> What do you feel about the effectiveness of the student teaching programme offered by your institution ? Do you feel that it prepares the prospective teachers for the actual teaching position ? If not, what are the reasons ?

Has the teacher training programme effectiveness problem something to do with the gap between theory and practice courses ?

Has the student teaching effectiveness something to do with

* the preparation of student teachers for student teaching ?

* the nervousness and anxiety arising out of the lack of confidence to face the class on the part of the student teacher ?

* the discipline problem in the full-scale practising classes ?

* the sudden exposure of the student teacher to full duration of the teaching period right from the beginning of the student teaching ?

* the use of several teaching skills simultaneously from the very beginning of the student teaching ?

* the teaching of several concepts/ideas right from the beginning of the student teaching ?

* the quality of supervision received by the student teacher during student teaching ?

You have thought about the teacher training programmes including student teaching. Summarise your thoughts (points only) in the box given below.

I think that

(a) the major weaknesses of the teacher training programmes are:

_____

_____

_____

_____

(b) the salient-features of the existing student teaching programmes are:

_____ _____
_____ _____
_____ _____
_____ _____

(c) the major weaknesses of the student teaching programmes are:

_____ _____
_____ _____
_____ _____
_____ _____

SHARING WITH OTHERS

You have listed the weaknesses of the teacher training programmes including student teaching as identified by you in the light of your experiences as a teacher educator. We had posed these questions to some other teacher educators working in different teacher training institutions. We ourselves also had the opportunity to work and observe programmes in selected teacher training institutions. You might be eager to know as to what your other professional colleagues feel about the problem of effectiveness of the training programme. The problems arising out of this exercise are presented in this section with a view to sharing them with you. Problems concerning the student teaching programme have received the major focus here, since this area is considered to be of crucial importance in the total teacher training programme.

Considering the effectiveness of the teacher training pro-
gramme in general, there is a near unanimity among the professionals
that our programmes are heavily weighted in favour of the theory
courses (Education Commission, 1966; NCERT, 1978). By implica-
tion, practice teaching remains in alarmingly diluted form. It
is, therefore, not surprising to find student teachers unable to
translate theoretical formulations on teaching into practical
propositions. The teacher training seems to have no bearing on
what the prospective teacher does in the classroom, when he joins
his ascribed teaching position after completing the training
ritual. The gap between theory and practice has become prover-
bial (Jangira, 1979). This sadly reflects on our teacher train-
ing programme.

Let us examine little closely as to what happens in the stu-
dent teaching programme which follow theory courses. In most of
the training institutions, student teaching includes a few demon-
stration lessons by the method masters, supervised block practice
teaching, and a couple of criticism lessons. This is what is
expected of the teacher training institutions. What actually
happens in a particular training institution is anybody's guess.
/oners It is voiced in various forums, and practiti-/ in teacher train-
/the ing also accept,may be in private, that even/minimum require-
/in ments are not fulfilled by all student teachers./ all training
institutions.

The student teaching, when viewed from the student teachers
angle, is further revealing. Let us visualise student teachers
who are ready to face the pre.alent student .eaching programme.
They are required to face full scale class of 30-40 pupils who very
well know that the student teachers are not their real teachers,
that they are here merely to dramatise some of their rituals, that
they can offord to be free with those victims to the extent of
being notorious, that their temporary masters are helpless creatures.
With the result, motivation of the pupils to be faced by the stu-
dent teachers is miserably low and the intent to notoriety dis-
turbingly high.

Even if a student teacher succeeds in getting a normal class
of willing and cooperative pupils, his problem is not solved. The
poor fellow has never faced a class, even a simulated class as
such, for teaching. He does not have the experience of presenting
content systematically to.a group of persons, except some inciden-
tal informal communication with persons in mostly unstructured
social groups. The communication of structured knowledge in a for-
mal group like the classroom is far from his experience. In train-
ing institution, he had merely learnt theory and principles of
teaching up to this point. How to translate them into classroom
transaction is a dilemma before him. With this background, the
poor fellow faces the challenge of his life on the first day of
the student teaching - the challenge to teach 30-40 pupils, the
challenge to communicate sizeable content in a systematic manner

following the principles of teaching learnt in unrealistic and
indifferent theory classes for 30-40 minutes at a stretch, the
challenge to follow the lesson plan in the prescribed format, the
challenge to teach in the presence of his peers and the college
supervisor (if he cares to be present) who is far from sympathetic
- the sword of ridicule after the lesson hanging on his head.

Needless to say, teaching is a complex activity. Even tea-
chers with long standing face difficulties sometimes. The condi-
tionof the novice student teacher on the eve of his baptisation
is very miserable indeed! The sight of the student teachers with
trembling legs and palpitating heart on the fateful day of the
first teaching encounter is not uncommon. The unprepared victim
finds himself in shallow waters. He is not confident whether he
would swim or sink, whether he would be able to control the pupils,
be able to communicate effectively and follow the sequence of acti-
vities he has imprinted on the piece· of paper known as lesson plan.
He is not sure as to what will come out of the Pandora's box he
is going to open during his initial teaching encounter.

Do, the student teacher enters the fray. His fears are con-
firmed. If he tries to remember the sequence of activities he
forgets the pupils; if he focuses on   in-attentive pupils, he
forgets the teaching aid he had brought for display; if he remembe
the teaching aid, he forgets the questions he had framed for in-
volving the pupils; he planned the lesson for 40 minutes but now
even ten minutes appear to be ten years. What a mess! He looks

to his lesson plan after the class. The supervisor remarks "improve your questioning", "classroom discipline needs attention", "on the whole the lesson was satisfactory" greet him. He does not know what to do ? In what specific directions should he improve his questioning ? What aspects of discipline need attention? What are the areas of satisfaction and dissatisfaction in the lesson ? The poor fellow is further bewildered.

Recall your experiences. How did you feel on the eve of your first lesson during student teaching ? What happened in your class during the first teaching encounter in the student teaching programme ? You are lucky, if you did not face the situation outlined above. The experience shows that majority of the student teachers have to face this difficulty due to inadequate preparation they receive before launching the block student teaching. The price we have to pay for this lapse is exceedingly high. Some of the student teachers, after this traumatic experience, develop such a negative attitude towards student teaching that they do not want to face the class Others who are able to muster up courage, face the class diffidently. In such a situation, it is well high impossible for them to acquire the desired level of teaching competence.

The complexity of teaching is further aggravated by the interplay of a number of skills. Our prevalent student teaching starts with macro-lessons requiring the use of multi-teaching skills right from the start. The supervisor feedback in the form

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of comments also refer to overall teaching. In the process, some
of the teaching skills are likely to go unpractised or underpract-
ised in the absence of planned focus on each of the teaching skills.
In other words, teaching skills do not get adequately sharpened
in our prevalent programme of student teaching. Student teachers
may not have acquired the repertoire of teaching skills for rea-
lising varied instructional objectives. This might be one of the
serious handicaps for the student teachers in facing the actual
teaching situations effectively.

By way of summarisation

The major weakness of our training programme refers to
the appalling gap between theory and practice. Our insti-
tutions have earned the disrepute of ignoring the practi-
cals and focussing the impracticals.

The student teaching programmes, as being offered in our
training institutions, also suffer from several deficien-
cies. Not realising the complexity of the teaching pheno-
nenon arising out of the full scale class of 30-40 pupils,
full lesson of 30-40 minutes, several concepts to be in-
troduced and several teaching skills to be used in a single
lesson; the unprepared student teacher is pushed into sha-
llow water's of the block student teaching right from the
start. Secondly, absence of supervision based on systema-
tic observation and feedback deprives the student teachers

of the specific direction for improving his subsequent teaching
performance. This situation precludes the student teacher from
acquiring the desired level of teaching competence resulting
in frustration and lack of faith in the training. His teach-
ing behaviour, at the end of the block student teaching, does
not undergo a change in the desired direction. By and large ,
it remains in the original ritualistic form.

YOUR OWN POINT OF VIEW

You have gone through some of the weaknesses of the student
teaching programmes as it is offered in our training institutions.
You also reflected and listed the weaknesses of the student tea-
ching programme. The preceeding section provided to you an ana-
lysis of the weaknesses of the student teaching programmes from
the experiences of your professional colleagues. Youmay consider
the student teaching programme as it is being organised in your
institution. Identify the weaknesses of the student teaching pro-
gramme in your institution since this will turn out to be a step
forward in the direction of strengthening the same with a view to
improving its effectiveness to be taken up in the next unit.

I feel that the programme of student teaching in my insti-
tution needs careful consideration for change in the light
of the discussion in this unit in the following directions
(Points only) :-

_____

_____

_____

_____

A WORD OF CAUTION

The presentation in the unit is likely to give you an impression that there is everything on the wrong side in the existing programme of student teaching. The emerging scene appears to be somewhat pessimistic. As a matter of fact, this is neither the intention of the unit nor a reality. The focus on the weaknesses has been deliberate, because we have to design programme for overcoming these weaknesses for the specific purpose of strengthening the existing programme of student teaching. So, there is no occasion for you to be disheartened nor to be complacent. Think from right now as to what can be done to improve the effectiveness of your student teaching programme and proceed to the next unit for crystalising your programme of action.

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ME (1966)   EDUCATION NATIONAL DEVELOPMENT: Education Commission Report, Ministry of Education, Delhi.

NCERT (1978)   Teacher Education Curriculum Framework, National Council of Educational Research and Training, Delhi.

You have been presented an overview of the concept
and meaning of microteaching. It will be worthwhile
to have a glimpse of the development of microteaching
as a training technique. This will help you appreciating
the efforts towards developing an Indian Model of
Microteaching.

Micro-teaching was developed in the Centre for
Research and Development of Standford in 1960s. For its
developmental history abroad, you can refer to Allen
and Ryan (1969), Turney (1973), Brown (1975), Passi (1976),
Dosajh (1975) and Singh (1979). The first impression that
emerges from the study of the developmental history of
micro-teaching abroad is that it is a technique based on
high technology involving the use of sophisticated gadgets
like Video Tape Recorder (VTR) and Closed Circuit
Television (CCTV) for modelling the behaviour of student
teacher in the use of a particular skill and for
providing feedback on his teaching performance. Even
pupils drawn from the school to serve as pupils for
micro-teaching sessions are paid in dollars and pounds.
This situation created a dilemma for developing countries
where neither the sophisticated technology nor resources
for its introduction appear to be a reality in near
future. That is why, the innovation remained a far cry
in the teacher training in developing countries despite
the evidence to support its effectiveness in developing
general teaching competence in the trainees as compared
to the conventional programme of student-teaching.
Unless the technique is modified to suit the conditions
available in the developing countries, its functional
utility in their context is likely to remain a dream
reality.

Unit Two – STRENGTHENING STUDENT TEACHING

OVERVIEW

In the preceding Unit, you identified some of the weaknesses of the existing student teaching programme in our training institutions. As a practitioner, you will be interested to think about the effective steps to overcome these weaknesses in order to strengthen it. You know that several innovative programmes have been designed and tried out in different parts of the globe including our own country to achieve this goal. This Unit is designed to assist you in a quick review of the weaknesses identified in the preceding Unit, to think about the action-points for overcoming these weaknesses, and to present before you one of the innovative programmes which has been successfully tried out in our context.

REVIEW

The weaknesses of the existing student teaching programme being offered in our training institutions are summarised in the box given on the next page.

Inadequate preparation of the subject-
teachers for the block student-teaching
programme.

Sudden exposure to complex teaching
situation, where:

full class size comprising 30-40 pupils
poses management and discipline problems
to the beginner;

the duration of 30-40 minutes lesson
is unduly long for a beginner;

the use of several component teaching
skills in the full scale lesson
precludes the beginner to focus on
specific skills;

several concepts in a full scale lesson
cannot be satisfactorily presented by
the beginner;

global supervisory comments fail to
provide systematic and specific
feed-back to the student teacher to
plan improvement in subsequent
teaching.

THINK A WHILE

The weaknesses of the student teaching programme
identified by you have been summarised above. In view
of your experience as a teacher educator and your
knowledge about the recent innovations in student-
teaching, what specific steps would you propose to
overcome these weaknesses? Think a while and write

the objectives given in the box.

Know the innovative programmes designed and
tried out to overcome the weaknesses of the
student teaching programmes.

Know the rationale of micro-teaching as a
step in preparing to teach.

Know the meaning of the terms used in
micro-teaching.

Know the components of micro-teaching —
modelling, feedback, setting, integration.

Know the procedure of micro-teaching and
its cycle.

Apply the knowledge of micro-teaching to
develop new design with a view to strengthen-
ing the existing programme of student-teaching
being offered in your institution.

Compare the emerging model of student-teaching
with the existing programme of student
teaching.

SHARING WITH OTHERS

Practitioners in the field of teacher training
are as concerned about the weaknesses and effective-
nesses of the student teaching programme in our
training institutions as you yourself are. They
have been on the look out for ways and means to

overcome these weaknesses to strengthen the student
teaching programme. Several innovations like
sensitivity training, human relations training,
behaviour modification approach, simulation,
interaction analysis and micro-teaching, have been
designed and tried out towards this end. Micro-
teaching technique will be discussed in detail in
this Unit due to its demonstrated effectiveness
and availability of the Indian Model as a preparation
for the student-teaching programme. For details of
the other approaches reference can be made to
Flanders (1970) and Jangira (1979) for interaction
Analysis, Carkruff (1972), for Human Relations
Training and Sensitivity Training; Taylor and
Walford (1974) for simulation and Patterson (1971)
for Behaviour Modification.

MICRO-TEACHING is a training setting for the
student-teacher where complexities of the normal
class-room teaching are reduced. The complex
teaching skill is analysed into simpler component
teaching skills which are practised one at a time.
To practise a particular skill 5 minutes micro lesson,
using single concept is planned. The lesson is then
taught to a micro-class comprising 5-10 pupils.
In this way, complexities of the normal class

teaching are simplified in micro-teaching by -

---

o   practising one component skill at a time

o   limiting the content to a single concept.

o   Reducing the class-size to 5-10 pupils.

o   Reducing the duration of the lesson to
     5-10 minutes.

Micro-teaching, therefore, hasbeen described as
"scaled down teaching encounter" or "miniaturised
class-room teaching".

When/micro-teacher delivers the micro-lesson
for practising a particular skill, his teaching
behaviour is recorded using the available facilities
(videotape, tape recorders, live observer). Specific
evaluation tools meant for the particular skill under
practice are used for systematic recording, and
analysing the teaching behaviour.

The student-teacher is provided systematic feedback
(information) on his teaching performance with a view
to helping him to improve it in subsequent reteaching.
The student teacher replans the lesson in the light
of the feedback received and reteaches a different
group of pupils. His reteach behaviour is again
recorded and analysed. He is provided refeedback
on the basis of this evaluation. This 'teach-
reteach' micro-teaching cycle continues till the
student teacher acquires desired mastery over

the component teaching skill. Following this, micro-
teaching has also been described as 'teach-reteach'
cycle of training. The exact teach-reteach cycle of
micro-teaching can be shown diagrammatically as below:

```
              ┌──────────────┐
              │    TEACH     │
              └──────────────┘



┌──────────────┐                              ┌──────────────┐
│ Refeedback   │                              │  Feedback    │
└──────────────┘                              └──────────────┘


        ┌──────────────┐   ┌──────────────┐
        │ Re-teach     │───│ Re-plan      │
        └──────────────┘   └──────────────┘
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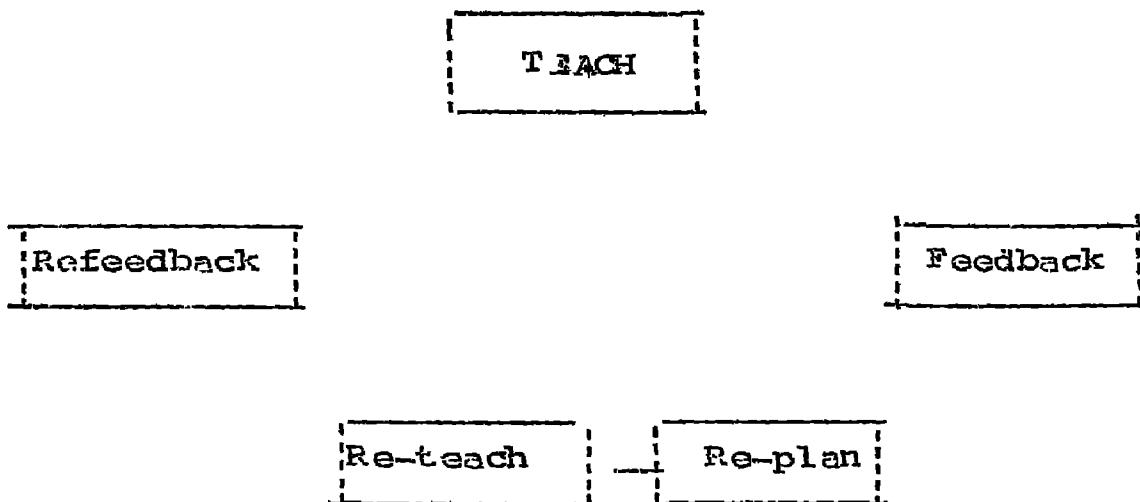
Diagram: 1. Micro-teaching cycle.

So, in addition to reducing complexities of the
normal class-room teaching, micro-teaching envisages

```
┌────────────────────────────────────────────┐
│  o  Specific feedback for improvement        │
│     of teaching behaviour using              │
│     systematic recording/observation.        │
│                                              │
│  o  Re-planning and reteaching for           │
│     mastering learning of the specific       │
│     skill under practice.                    │
└────────────────────────────────────────────┘
```

Micro-teaching has been presented before you as a training technique, wherein classroom teaching complexities are reduced and as a teach-reteach cycle based on feedback on teaching performance. Now, we may consider phases of microteaching and activities and components

of microteaching corresponding to each of the phases. The practice or skill acquisition phase is the central phase preceded by the knowledge acquisition and followed by the transfer phase. The consolidated view including components relating to each of the phases of micro-teaching have been presented in diagram 2.

The first phase of micro-teaching refers to knowledge acquisition phase. In this phase, the student-teacher familiarises himself with the component-teaching skill to be practised. He attempts to acquire knowledge about the skill - its rationale, its role in classroom teaching and its component behaviours. This he does through reading of relevant literature, observing demonstration of the use of the skill and analysing teaching behaviour into the component behaviours. These activities are directed towards what is known as modelling component of microteaching. Modelling can be defined as the mode of presentation of the skill.

The knowledge acquisition phase leads the student teacher to the next phase - the skill acquisition phase. On the basis of the models presented to the student-teacher, he plans micro lesson for practising the skill and carries out microteaching cycle till he

acquires the desired level of mastery of the subject.
This activity involves two components: feedback and
microteaching setting. Setting has been shown with
dotted enclosure since it deals with conditions of
microteaching. Feedback means providing systematic
information on teaching performance and setting covers
conditions like size of the microclass, duration of
the microlesson, supervisor, types of pupils etc.

The skill acquisition phase is followed by the
transfer phase. Here the student-teacher undergoes
exercises for smoothening transition from micro-teaching
situation to real teaching situation. The component
for this phase is the integration of component skills.

The components of micro-teaching — modelling,
feedback, setting and integration have been briefly
mentioned here. They will be discussed in more detail
in Unit four.

Micro-teaching Assumptions

From what has been discussed about the concept of
micro-teaching, it is evident that it is based on the
assumptions given in the box.
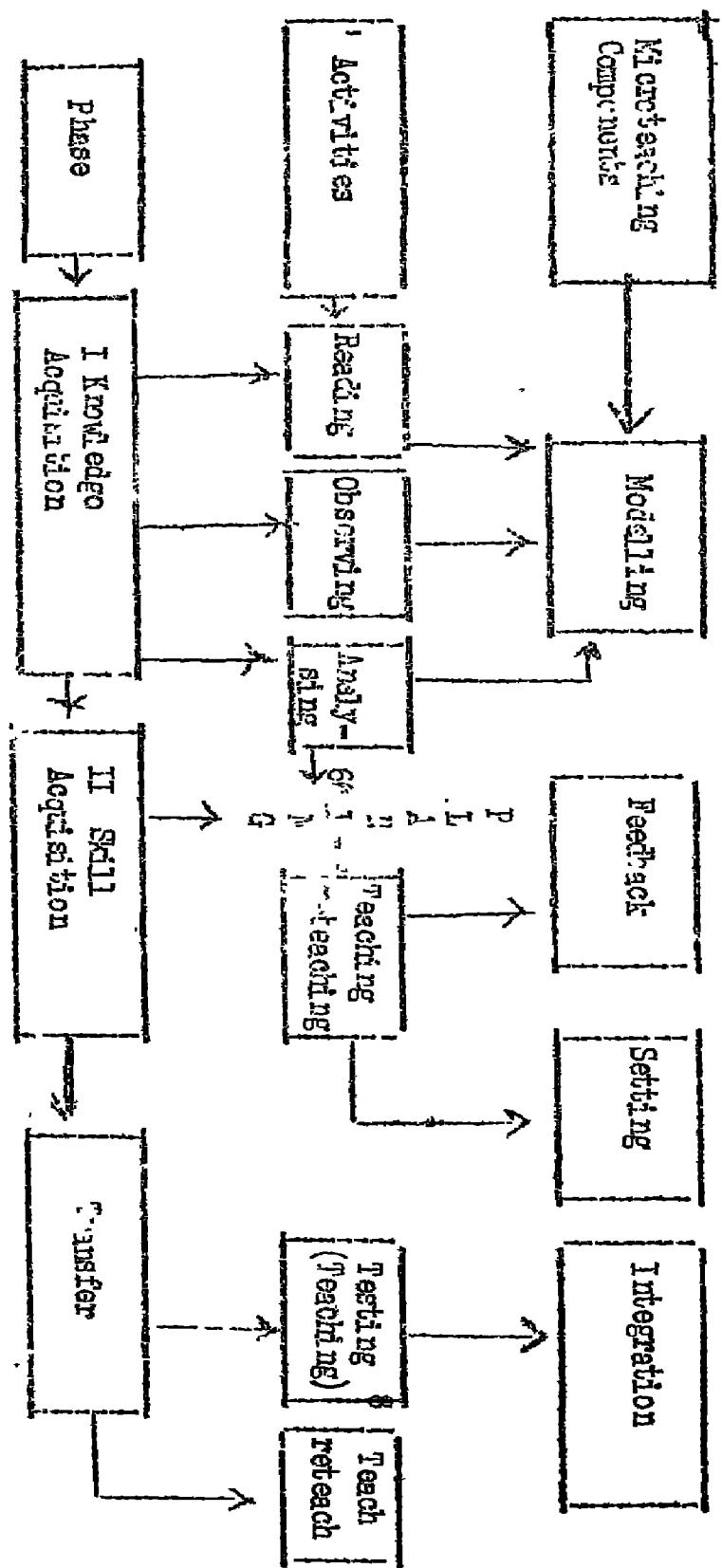
Diagram 2. Phases, activities and components of microteaching.

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- o Teaching is a complex skill which can be analysed into simpler skills.

- o Component teaching skills can be practised for mastery under simplified teaching situation one by one.

- o Training with systematic feedback is helpful in skill mastery.

- o Once component teaching skills are mastered one by one, they can be integrated for real teaching.

- o The skill training is transferred to actual teaching.

Do you agree with these assumptions? If not, what are the reasons? If yes, what is the basis? Try to apply your knowledge of psychology and other allied areas in combination with your experience as teacher educator for formulating your opinion. Write briefly your views in the box given below:

I do not agree with the assumption(s) because

_____

_____

_____

I agree with the assumption(s) because:

_____

You have been presented an overview of the concept
and meaning of microteaching. It will be worthwhile
to have a glimpse of the development of microteaching
as a training technique. This will help you appreciating
the efforts towards developing an <u>Indian Model of
Microteaching.</u>

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providing feedback on his teaching performance. Even
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micro-teaching sessions are paid dollars and pounds.
This situation created a dilemma for developing countries
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future. That is why, the innovation remained a far cry
in the teacher training in developing countries despite
the evidence to support its effectiveness in developing
general teaching competence in the trainees as compared
to the conventional programme of student-teaching.
Unless the technique is modified to suit the conditions
available in the developing countries, its functional
utility in their context is likely to remain a dream
reality.

In the Centre of Advance Study in Education (CASE),
Baroda, interaction analysis using live observation
without the aid of gadgets was being successfully
experimented upon—to study teacher behaviour and
training teachers in 1970s under the leadership of
Prof. M.B. Buch. This provided a cue to adapting
micro-teaching to the conditions prevailing in our
teacher training institutions. So, experimental try
out of micro-teaching with no technology or low
technology was carried out at CASE, Baroda. Modelling
was tried out through written material, lectures,
demonstration and discussion. Feedback was also based
on systematic live observation. The results were
encouraging. Micro-teaching was found to be more
effective than the conventional programme of student-
teaching in developing different component teaching
skills (Ghudasana 1971, Passi - Shah 1974, Singh 1974,
Abraham 1974, Joshi 1975, Lallitha 1976, Passi 1976).

The Department of Teacher Education of the
National Council of Educational Research and Training
designed a comprehensive project to study the
effectiveness of micro-teaching in 1975 in collaboration
with CASE. The experiment involving institutions from
different parts of the country supported the results
of the earlier studies. Simultaneously, organizational
problems of training colleges were assessed. The
project was followed by research and development
activities. A series of research projects to study
the effectiveness of variations in microteaching

components were taken up. Training programme for teacher
educators were initiated in collaboration with the
Department of Education, University of Indore (Das 1977,
1979). The research produced empirical evidence for
modifying microteaching procedure to suit to the Indian
conditions and the training of teacher educators provided
persons for trying out, adapting and helping diffusion
of the innovation.

Instructional material on micro-teaching developed
by Passi (1976), Singh (1976, 1979) and Jangira (1976)
was used for training of the teacher educators. Based
on this research and development activity, the Indian
Model of Micro-teaching was developed. The salient
features of the model are:

1. The mode of presenting the skill i.e. modelling
is done through written material, lectures, demonstration
and discussion; and not through film, video, CCTV as in
the case of the advanced technology models of USA, UK,
Australia and other developed countries. Interesting
thing is that this does not affect the modelling
effectiveness in the case of verbal skills at all
Only in the case of modelling effectiveness in respect of
non-verbal skills is affected with marginal disadvantages.
However, in this case also, if live demonstration of the
skill is good, even this marginal disadvantage is overcome.

2. Live observers are used to observe teaching for
providing feedback to the student teachers in the Indian
model, while VTR and CCTV are used in the developed

countries. Peer supervisors are used along with college supervisors or even peer supervisors alone are used wherever teacher student ratio is unfavourable, without losing effectiveness (Das 1977, 1979).

3.   Peers are used as pupils instead of real pupils without losing effectiveness of microteaching (Das 1977, 1979).

4.   The microteaching laboratory can function with minimum of facilities according to the available space, material and equipment. Feedback sessions can be organised even in corridors or open space, if sufficient accommodation is not available.

5.   The duration of the microteaching cycle is:

Teach	—	6 minutes
Feedback	—	6 minutes
Replan	—	12 minutes
Reteach	—	6 minutes
Re-feedback	—	6 minutes
Total:		36 minutes

The model has been successfully tried out and is being used in many of the university departments and training institutions.

The salient features of the Indian Model of micro-teaching can be summarised as in the box.

---

o   Flexible to suit the varying levels of
     facilities (space and materials) available
     in the Colleges of Education.

o   It is a model with low or no gadget
     technology.

o   Modelling through written materials,
     explanation, demonstration and discussion.

o   Feedback through systematic live
     observation by College supervisor or
     peers or both.

o   Use of peers for microteaching instead
     of real pupils.

From what has been discussed about micro-teaching, can you think about the place of microteaching in the existing student-teaching programme being offered in the teacher training institutions?

I feel that the place of microteaching
in the existing programme of student-
teaching is _____

_____

_____

- , You are right, if you feel that microteaching is
not a substitute for the block student-teaching
programme being organised in our teacher training
institutions. The purpose of micro-teaching is to
prepare the student-teachers in simplified teaching
situations for undertaking the block student-teaching
in real conditions. It is a preparatory, and so, a
complementary organ of the block student teaching
programme. The existing student teaching programme
and the skill based student teaching programme
emerging from its fusion with the microteaching
technique has been shown in the diagram 3 below:

```
I. |-----------------|          II. |-----------------|
   | Conventional    |              | Microteaching   |
   | Student         |              | based student   |
   | Teaching        |              | teaching        |
   |-----------------|              |-----------------|


   |-----------------|              |-----------------|
   | Block Student   |              | Block student   |
   | teaching        |              |    teaching     |
   |-----------------|              |-----------------|
   | Demonstration   |              | Multi skill integra- |
   | microteaching   |              | tion based micro- |
   |     Theory      |              |    teaching     |
   |    courses      |              | Skill based     |
   |-----------------|              | microteaching   |
                                    |   Theory        |
                                    |   courses       |
                                    |-----------------|
```
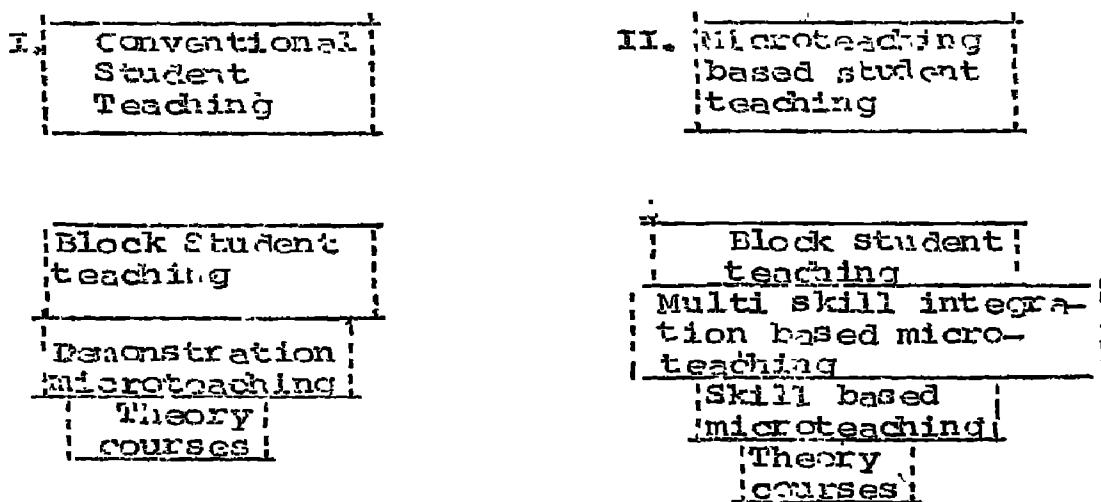
Diagram No. 3. Conventional Student Teaching and
Microteaching-based student
Teaching.

It can be seen from the Diagram No. 3 above that
the microteaching based programme of student teaching
makes the block teaching programme of learning to teach
easier, meaningful and more satisfying; since it takes
the student teacher from preparatory stages to full
scale real teaching.

You may now evaluate the emerging programme of
student teaching proposed in the preceding pages in
terms of its potentiality to overcome the weaknesses
of the existing programme of student teaching keeping
the questions given in the box in focus.

---

o How is this programme likely to help the
student teacher in translating their learning
in theory courses into practice?

o Will the training in teaching skills prepare
the student teachers for their block
student teaching?

o Will this programme still confidence in the
student teacher for undertaking actual teaching?

o Will the supervision based on systematic
feedback in the present programme is helpful
to the student teachers in improving their
teaching skills?

o Do you feel like trying out this new programme
for strengthening the student teaching progra-
mme in your training institution?

You appear to be inclined to strengthen the programme
of student teaching in your institution. For this you
need some more knowledge about the various aspects of
micro-teaching — the teaching skills, components and
organisational steps. The subsequent units provide
you this much needed knowledge.

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UNIT THREE — TEACHING SKILLS:

OVERVIEW

You will recall that microteaching is based on the premise that the conplex teaching act can be analysed into simple teaching skills. This unit provides to you knowledge about the concept, identification and selection of the component teaching skills for training.

OBJECTIVES

After reading this unit, you are expected to realise the objectives given in the box.

```
*Know the definition of the component
 teaching skills and component behaviours
 comprising the skills.
*Know about the sources of the component
 teaching skills.
*Know the component skills identified for
 training purposes.
```

THINK A WHILE

You have been teaching yourself. You have also been teaching the prospective teachers about teaching. Can you think about the analysis of teaching into its components? Think a while and write briefly (points only) in the box given below.

```
I think that teaching can be analysed
into the following components.

_____

_____

_____

_____
```

SHARING WITH OTHERS

You have just analysed teaching. As you know, teaching has been the subject of study since long due to the growing concern about its effectiveness. Many educators have analysed teaching in several ways with a view to understanding it, and designing instructional methods and materials for realising the specific objectives. This section presents before you one such attempt from the view point of its relevance to teacher training.

Teaching can be analysed in terms of teacher behaviours at leasts at three levels viz; component teaching skills, set of component teaching behaviours comprising the component skill, and atomistic teaching behaviours. The diagram below presents the teacher behaviour based concept of teaching.

Tb — Teacher behaviour

C — Component behaviour comprising a teaching skill.

S — Component teaching skill
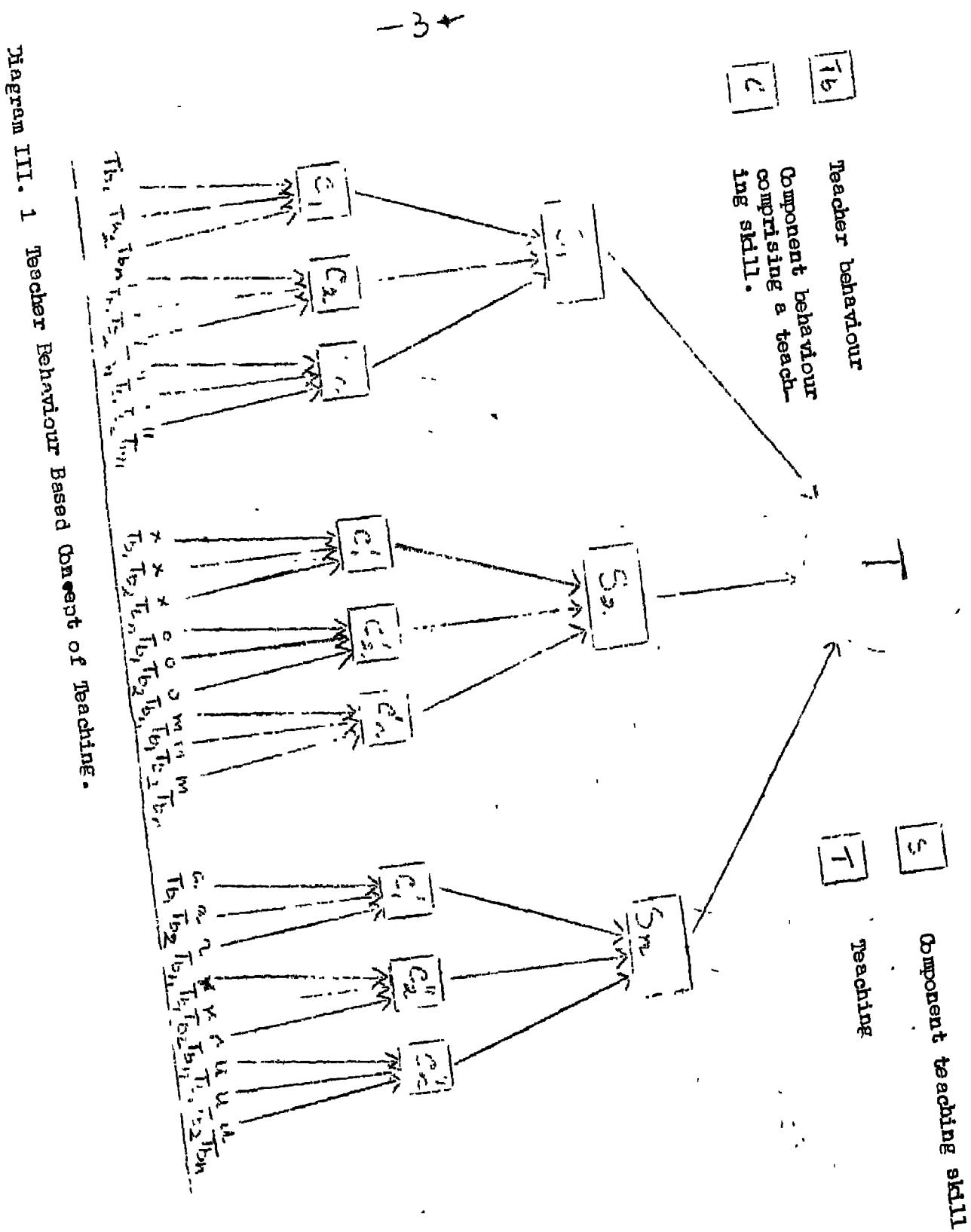
T — Teaching

Diagram III. 1   Teacher Behaviour Based Concept of Teaching.

It can be seen from the diagram that teaching can be
analysed into component teaching skills at the first level.
Following analysis at this level, <u>teaching can be defined
as a set of component skills for the realisation of a
specified set of instructional objectives</u>. By implication
teaching itself is a complex skill comprising a set of
component teaching skills. The component teaching skills
can be further analysed into respective sets of component
teaching behaviours at the second level. Thus, <u>component
teaching skill can be defined as a set of related component
teaching behaviours for the realisation of specific
instructional objective(s)</u>. The set of instructional
objectives to be realised by a particular skill will be
limited as compared to the set of instructional objectives
envisaged in the definition of teaching since the former
is more comprehensive. Component teaching behaviour can be
further   analysed into simpler atomistic teaching behaviours
at the third level of analysis. <u>The component teaching
behaviours, therefore, can be defined as a set of related
atomistic teaching behaviours contributing to the realisation
of some aspect(s) of the instructional objective purported to
be realised by the component teaching skill.</u> Detailed analysis
has been presented in Jangira (1975b .

The purpose of the analysis of teaching presented here

is to select a convenient unit for training the teachers,
since training in microteaching situation poses problems
for the students teachers due to its complexity. Instead
of practising the complex teaching as a whole right from the
beginning, component teaching skill and its component teaching
behaviours are selected as training units at the beginning
stage which helps students teachers in the former by way of
preparation. Following this microteaching has rightly
been described as analytic approach to training.

---

* Teaching is a complex skill.

* It can be analysed into component
  teaching skills and component
  teaching behaviours.

* Simpler skills and component
  teaching behaviours are convenient units
  for training student teachers for
  preparing them to undertake full
  scale teaching with confidence.

Microteaching, being skill based training, component
teaching skills have to be identified and selected. The
sources of the teaching skills are effective teaching behaviours
emerging from research on teacher effectiveness, analysis of the
task of teaching, observation of teaching, and the psychology
of learning and instruction. It is beyond the scope of this
unit to present review of research on teacher effectiveness.
Those of you who feel interested may refer to Gage (1963,
1965); Rosenshine (1971, 1972, 1978); Medley (1978),
Flanders (1969, 1970); Traverse (1973); Dunkin and Biddle
(1974); Buch (1975,1979) and Jangira (1974 and 1979);
Dave (1973), DTE (1980).

Based on the research on teacher effectiveness referred
to above, the analysis of teaching, and the emerging psychology
of learning and instruction; several sets of component teaching
skills have been identified by different institutions and
individual workers in different countries. A number of these
skills are common with different terminology and minor differences
in the component teaching behaviours comprising the skills.
For detailed reference you refer to Allen and Ryan (1969),
Borg (1970), Flanders (1973), Turney (1973), Brown (1975),

In our own country, Lalitha (1975) listed general
teaching skills for secondary teachers through interviewing
the headmasters, teachers, and observing and analysing the

tasks performed by the teachers. Based on this work, Baroda General Teaching Competence Scale (BGTCS) was developed at CASE. Passi (1976) gives a list of twenty one skills based on the work done in CASE. Jangira, Singh and Mattoo (1979) modified the work and arrived at twenty teaching skills while working with teacher educators, student teachers and inservice secondary teachers.

The table below gives a comparative list of the skills from various sources. The skills have not been given in the sequence followed in the original references. They have been rearranged from the view point of similerity.

Table: Comparative list of Teaching Skill

ALLEN (1969)	BORG (1970)	TURNEY (1977)	PASSI (1976)	JANGIRA &(1979) ASSOCIATES.
1.	2.	3.	4.	5.
Stimulus Variation	Varying the Stimulus situation	Varying Stimulus	Stimulus Variation	Stimulus variation
Set-induction	Establishing set	Set-induction	Introducing a lesson	Creating a set for introducing a lesson
Fluency in questioning	Asking questions	Using effective basic questioning fluency	Fluency in questioning	Structuring questions. Question delivery.& Distribution
Probing questions	Use of probing questions	Using/probing questions	Probing questions	Response management.
Use of higher order questions	Use of higher order questions	Using higher level questions		Level of questions.
Divergent questions		Use of convergent questions.		

1.	2.	3.	4.	5.
Lecture	Lecturing	Lecturing	Explaining	Explaining
Planned repetition		Using planed repetition		
Completeness of communication	completeness of communication	Ensuring completeness of communication		
Illustration with examples	Illustrating & use of examples	Using examples	Illustrating with examples	Illustrating with examples
Recognising and attending behaviour	Recognising and obtaining attending behaviour		Recognising Attending behaviour	
Reinforcing pupil participation	Employing rewards & punishment	Giving reinforcement to pupil behaviour	Re-inforcement	
Teacher silence and non-verbal cues	Teacher silence and non-verbal cues	Using silence Using non verbal communication	silence and non verbal cues	
Closure	Achieving closure		Achieving closure	Achieving closure
	Establishing appropriate frame of reference			
	Providing feedback	Encouraging pupil feedback		
	Control of pupil participation			

1	2	3	4	5
	Redundancy and repetition			
	Student initiated questions			
	Precuing			
		Encouraging pupil involvement/ participation	Increasing pupil participation	Promoting pupil participation.
		Using audio visual aids		Using audio visual aids
		Pacing the presentation		Pacing the lesson
		Diagnosing Difficulties		
		Providing Remedial measures	Remedial measures	Diagnosing & taking remedial measures
			Writing Instructional objectives	Using appropriate instructional objectives
			Using blackboard	Using blackboard
			Selecting content	
			Organisation of the content	Organisation of the content
			Selecting audio visual aids	
			living assignments	
			Evaluation	Evlauation of pupil progress elanroom management.

It will be seen from the above that number of the skills vary from person to person. This can be due to the fact that the lists are not exhaustive. Secondly, the number of skills and the level of their specification have been determined by a number of cons such consideration as the commitment of the teacher educators in the light of teaching effectiveness and the level of trainees. However, one thing is obvious that the common denominator in the skills is very high. The skills are similar with different terminology. Some skills have been further broken down into similar skill for convenience of training. The skills finalised four our purpose are:

1. Appropriateness of instructional objectives
2. Organisation of the content in the lesson
3. Creating set for introducing the lesson
4. Introducing the lesson
5. Structuring questions
6. Delivery and Distribution of questions
7. Response management
8. Explaining
9. Illustration with examples
10. Use of Teaching Aids (other than blackboard)
11. Stimulus variation

12. Use of verbal and non-verbal reinforces[r]

13. Pacing of the lesson

14. Promoting pupil participation

15. Use of blackboard

16. Closure of the lessons

17. Diagnosing learning difficulties and taking remedial measures.

18. Evaluation of pupil progress

19. Management of the class

20. Giving assignments.

Again the list is not exhaustive but fairly good representation of the component skills comprising the complex skill of teaching.

SOME ISSUES:

The list of teaching skills raises several issues. Which one of the available list is relevant? Are these lists exhaustive? Can these general teaching skills be applied to all teaching subjects? Are there some specific skills for teaching specific subjects which are not covered here? Is it possible to provide training in all of the teaching skills in a limited course of on academic year?

These are pertinent issues. An attempt
will be made to throw some light on these issues
in this section.

An examination of the lists of teaching
skills will reveal that most of them have
common teaching skills. There might be
a few teaching skills which are not common.
This may be due to the specific purpose for which
the list has been drawn. Secondly, in some cases,
more than two teaching skills have been combined to
given a comparatively more complex teaching skill,
since it is felt that the number of skills should be
limited. They do not like too much fragmentation of
the skills. Thirdly ', some of the teaching skills are
comprehensive but not exhaustive. One can add a skill,
analyse some skills into still simpler skills,
or, fuse two or more skills to get a more complex
skill depending upon the clientele i.e. the target
trainee, training facilities available, and the
duration of time budgeted for the training. Fourthly,
it may be possible that some teaching skills for
specific subjects are not covered in the General Teaching
Skills here. So, there is a scope for identifying

and defining skills specific to a particular subject.

For a example, the skill to organise a demonstration or

an experiment in science, recitation and planned drill

in language lessons can be considered in this category.

You can give thought to be the teaching skills of your

subjects. Fourthly, in view of the availability of
insufficient time for training in all the teaching skills,
priorities will have to be fixed. The basic skills like
questioning, explaining, illustrating, re-inforcement,
stimulus variation, handling pupil responses, management
of class may be accorded/ priority. . They may be covered
and others can be added according -; to the availability
of the time. This problem can also be viewed from the
organisational angles. Some of the student teachers are
quite competent in some skills while they are
deficient in others. So, the student teachers can
be grouped according to skill competence - skill
deficiency. This model has been suggested for in
service teachers in Jangira, 1980. They may be
provided practice only in the skill in which they are
deficient.

· The reactions regarding the issues presented in
this section are suggestive and not prescriptive.
You can also give Thought to these issues and arrive at
conclusions in view of the situations obtaining
in your institution.

THINK   ABOUT

This unit has given you a brief account
of the teaching. What do you feel ⱥ about
it? Please think about and answere the
following in view of your ⱥ experience.

I think that the following teaching
skills must be included for practice by
the student teachers ....

....

....

(b) the following skills should be
slected for practice by the student theachers,
if more time is available,....................

....

....

....

....

2(a) I suggest that the following teaching

skills may be added to the table given in the

_ unit...

....

....

(b) I suggest that the following teaching

skills given in the table in this unit

are superfluous and they may be

deleted.

....

....

....

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UNIT FOUR - MICROTEACHING COMPONENTS

OVERVIEW

You may recall that components of microteaching - modelling, feed-back, setting and integration were briefly mentioned in unit Two. In this Unit, they are discussed in more details, since this will provide you insight into the procedure for practice of microteaching. This Unit consists of four sections corresponding to each of the four components of microteaching - modelling, feedback, setting and integration.

I. MODELLING

OBJECTIVES

The first section deals with the modelling component. It presents the meaning and definition of this component, different formats of modelling, the relative efficacy of these formats and the guiding principles for the use of the component. Heaving read it, you are expected to realise the objectives given in the box.

---

o   Know the meaning and the definition of the component of modelling.

o   Know the different formats of modelling.

o   Know about the relative efficacy of different formats of modelling.

o   Know the guidelines for effective use of the modelling component.

MEANING AND DEFINITION OF THE TERM

The term modelling has been borrowed from behaviour modification psychology. The rationale for the use of modelling in microteaching is derived from the theories of imitative learning such as those proposed by Bandura and Walters (1963). These theories and other research work in the area of social modelling amply demonstrate that imitation plays a crucial role in acquiring and regulating all types of social behaviour. In the teaching-learning process, there is an ample evidence that different types of models do produce student learning (Young, 1969; Clans 1969; McDeonald and Allen 1967; and Koran et al 1969).

Modelling in a microteaching setting refers to the mode of presenting the desired behaviours under a skill for imitation by microteachers. It has been described by Allen and Ryan (1967) as "an individual demonstrating particular behaviour patterns which the student learns through imitation". The need for proper modelled teacher behaviours for being imitated by microteachers hardly needs any emphasis for the acquisition of these behaviours.

FORMATS OF MODELLING

There are three formats in which models can be presented - Perceptual, Symbolic and Audio. Each of these is described below.

Perceptual modelling: It involves showing to a microteacher a film, or a video tape or a live model of the desired behaviours under a particular skill with the hope that the microteacher will acquire them through skillful imitation.

An important advantage of using a filmed or a video taped
model is that it can be structured. Through the use of these
media, an observer can thus be presented with a highly
controlled and planned observational experience. Besides,
these media help to secure and sustain trainees' attention
to a great extent. Another advantage of filmed or videotaped
models is that once these are developed, these can be used
over and again in a variety of settings, if desired. These
models can be developed and refined in advance of their
actual use. Through editing, we can eliminate even minor
defects. Their utility for modelling non-verbal behaviour
need not be over emphasized.

Live models are also very useful in providing examples
of the desired behaviours under a skill. A live model is more
nearer to reality than any other model. But there are a few
handicaps in this modelling technique. First limitation
refers to the control over the modelled behaviour. A modeller
in a particular setting may not be able to demonstrate the
relevant behaviours under a skill to the desired extent.
Sometimes, a modeller may act in a way which he had not wished.
It has been observed that even with sufficient practice and a
number of rehearsals, a modeller may not be in a position to
perform optimally in a particular situation. The second
limitation is that a live modeller is susceptible to being
influenced by the trainees and their responses. Because of
this, his performance in two different settings may not be
same. Thirdly, a competent modeller may not be available
at a particular time. Despite all these limitations, live
models are considered highly motivating and quite effective.

Symbolic modelling

In this format, models are presented in written form -
hand books, guides, lessons etc. In this format of modelling,
it is possible to exercise a great deal of control in terms
of its timings, content and presentation. However, non-verbal
behaviour is difficult to depict through these models, except
directions and some illustrations.

Audio modelling

Audio-modelling involves presentation of the desired
behaviours under a skill to a trainee through audiotape.
Audio models have several advantages. Firstly, an audiotape
is relatively less expensive than videotape and filmed
models. Secondly, the procedure of making audio-models is
fairly easy. Thirdly, it is easier to use an audio-model
than a filmed or video-tape model. But it has a handicap
to the extent that it is useful for presenting verbal skills
only as non-verbal behaviours cannot be recorded. Because
of this limitation, its use for modelling is limited to skills
involving verbal behaviours.

Efficacy of Modelling Formats

Studies have been conducted to determine the relative
efficacy of the different formats of modelling. From the
results of a number of studies conducted abroad (Allen et al
1967; Koran, 1971; Acheson et al, 1974; Koran,1969; Phillips,
1973), it can be concluded that perceptual models and
symbolic models (written transcripts of teaching episodes)
are equally effective in bringing about changes in teacher

question behaviour (Singh, 1979). In India, studies in
this regard also reveal that these formats of modelling
are equally effective in the development of general
teaching competence in secondary student teachers. Besides,
audio modelling and perceptual modelling have been found
to be equally effective in developing general teaching
competence among secondary student teachers (Das et al 1977, and
1979). The audio modelling has, however, been found to
be more effective in developing the skill of questionning.
(Vaze, 1974).

Types of Models

There are three types of models - positive, negative
and mixed. The positive model is the one in which only
desirable behaviours are presented. The negative model is
that in which undesirable behaviours only are displayed.
The mixed models present the positive as well as negative
behaviours. The results of studies determining the
relative efficacy of these types of models are not conclusive
as in one study mixed modelling was found more effective
(Resnick and Kiss, 1970) but in another positive models
were found more effective than mixed models (Allen et al,
1967). It appears reasonable to present positive models
unless there is some empirical evidence to the contrary

To sum up, it can be said that there are three formats of modelling — perceptual, symbolic and Audio. In India, perceptual modelling (live models) and/or symbolic modelling are widely used in training courses for teacher educators as well as in training student teachers for acquiring different skills of teaching. Studies conducted by the NCERT have revealed that student teachers trained through perceptual modelling under micro-teaching approach could attain a significantly better teaching competence than those trained through traditional approach (Das et al 1978). It is therefore, emphasized that while training student teachers, we may use perceptual modelling. Further, it appears to be reasonable to use positive models.

F E E D B A C K

OBJECTIVES

You were introduced to the component of modelling in the preceding section. This section presents to you the concept of feedback based on systematic observation of microlessons alongwith definitions of the related 'terms'. The guidelines for providing feedback to the microteacher have also been given. Having read it, you are expected to realise the objectives given in the box.

---

o Know the meaning and concept of feedback.

o Know different sources of feedback.

o Know how to observe microlessons.

o Understand the guidelines for providing feedback to the trainees.

Meaning and concept

Over recent years, the concept of feedback is being used widely in modifying human behaviour. The term refers to providing information to an individual about his behaviour/ performance with a view to modifying it in the desired direction. It includes points of strength as well as weaknesses relating to the behaviour/performance. It has been found that the systematic feedback provided to an individual about his performance/behaviour in any situation helps him to improve upon it in the desired direction.

In the student teaching programme in our training
colleges, teacher educators have long been providing feed-
back to the trainees. But this feedback has usually been
inadequate in terms of specificity. It lacks pinpointed-
ness. It is rarely immediate. In the microteaching approach
there is a provision for immediate and specific feedback to
be provided to a trainee undergoing practice for attaining
mastery over a teaching skill. The specific immediate feed-
back helps a trainee to modify his behaviour in the desired
direction, and thus, facilitates acquisition of the teaching
skills. Cooper and Allen (1971) mention that the feedback
dimension of microteaching is crucial one in terms of changing
the behaviour of the trainees.

Observation for Feedback

In order to provide effective feedback, teaching is
observed and recorded systematically. A number of observation
systems are available for this purpose. Two considerations
guide the observation and recording of teaching for the purpose
of providing feedback. Firstly, the occurrence of the desired
teaching behaviours is to be recorded, and secondly, the
appropriateness of the teaching behaviours in the context of
the situations in which they occur is to be assessed. There-
fore, two types of tools for observation and recording of
teaching corresponding to these two objectives are required.
Both these types of tools for assessing the performance of the
microteacher on each of the skills he chooses to practice are
discussed here.

Teacher Behaviour Occurrence Schedule
(TBOS)

This tool is used for recording tallies of the behaviours being practised under a skill. A tally is put as soon as a behaviour occurs. At the end of the lesson, frequency of the tallies are counted. These tallies represent the frequency with which a particular skill component has been used. A sample observation tool which is used for recording the tallies of the occurrence of behaviours under a skill is given in table 4-1. It comprises three columns. The first indicates the components of the skill, the second tallies and the third represents the total number of tallies against each of the components. For the purpose of illustration, the components of the skill of Response Management are taken in the first column for illustrations. The number of tallies put by a supervisor against different components of the skill are also shown.

Table 4.1   Teacher Behaviour Occurrence Schedule for the skill of Response Management

Component	Tallies	Total
Prompting	╱	1
Seeking further information	╱╱╱╱╱	9
Refocusing	╱╱	2
Increasing critial awareness	╱	1
Total		13

On the basis of the tallies against each component,
the trainee is asked to increase the occurrence of those
desirable behaviours under the skill which the supervisor
feels were not adequate . For example, in the above
observation tool, tallies against the components of 'prompting
and increasing critical awareness' are not adequate. The
microteacher in such a case needs to be asked to increase
the occurrence of these behaviours in his reteach session.
In the skill of 'Response Management' only desirable behaviour
components are mentioned. But in certain skills such as
'reinforcement' and 'Explaining' both the desirable and
undesirable behaviours are mentioned. In these skills, if
the undesirable behaviours also occur, the trainee is asked
to eliminate them.

A question might come to your mind as to what is that
adequate number against which a supervisor should judge the
adequacy of the occurrence of particular behaviour/component
in a microlesson. In this connection it is said that the
number of times a trainee should use a particular component
of a skill in a microlesson of five minutes or so cannot be
fixed because it depends upon a number of factors such as the
concept, the component itself, the level of pupils, nature
of pupils - real or peers, and number of components comprising
the skill. It requires a judgement on the part of the
supervisor providing the feedback. The experience has shown
that such a judgement on the part of an experienced supervisor

is not difficult.

Rating Scale

The second tool which is used for providing feedback
to trainees is rating scale. As mentioned earlier it is
used to indicate the adequacy and appropriateness of the
behaviours components occuring under a skill . A Rating
Scale meant for assessing skill^{competence} is a seven point
scale. Whereas the frequency of the occurrence of a behaviour
under a skill is tallied as soon as it occurs, the rating
against different components of the skill is done after the
lesson is over. A rating scale which is used in the training
course organised by the NCERT is given in / Table 4.2. It comprises
of three columns. The first column indicates the components
of the skill and the second represents rating. The third
column is meant for comments, if any. The points on the rating
scale indicate the following:

1. Poor
2. Not Satisfactory
3. Nearly Satisfactory
4. Satisfactory
5. Fairly satisfactory
6. Very Satisfactory
7. Excellent

For the purpose of illustration, the components of
the skill of reinforcement are given in table 4.2.

Table 4.2 Rating Scale for Assessment of Teaching

Component	Rating	Comments if any
i) Use of praise words.	1 2 3 4 5 6 7	
ii) Repeating and repharasing pupil responses.	1 2 3 4 5 6 7	
iii) Use of positive non-verbal reinforcers (Including extra verbal cues) but excluding writing pupils answers on the black board.	1 2 3 4 5 6 7	
iv) Writing pupils' answers on the black board.	1 2 3 4 5 6 7	
v) Use of blame/words	1 2 3 4 5 6 7	
vi) Use of negative non-verbal reinforcers.	1 2 3 4 5 6 7	

A supervisor is required to show his assessment by encircling(o) or crossing (x) the number which represents his rating against a particular component. A rating of '4' against a desirable behaviour/component indicates its acquisition to the satisfaction level. In such a case, a trainee is provided feedback that he should further acquire this teaching behaviour. The trainee is required to attain a minimum level of mastery over different components of one skill before he is allowed to practice another skill. A '5' point rating on a seven point scale is generally considered as the minimum level of mastery which a trainee should attai

in respect of desirable behaviours of the components of the skill.

Both types of observation tools referred to earlier are given at the end of each skill discussed in this handbook.

After knowing the meaning of the (concept' of feedback, observation tools for recording the observations, you may be interested to know the different sources of feedback and their relative efficacy. Though a reference to these sources of feedback has already been made in unit two of the handbook, this section presents the discussion of these sources in a little more detail.

Sources of Feedback

The following are different sources of feedback used in microteaching settings:-

  o   Mechanical gadgets   a) Video-tape
             b) Audio-tape

  o   College Supervisor

  o   Peers

  o   Pupils who make up the micro-class

  o   Any combination of the first four sources
    of feedback. .

Mechanical gadgets: Video-tape and Audio-tape are being used extensively in U.K. and a number of other countries for providing feedback to teacher trainees. In the former the verbal as well as the non-verbal behaviour of a microteacher are recorded. The later only records the verbal behaviour of a

microteacher. In India, our teacher training institutions are not at present with videotapes and they are not likely to have it for several years to come. In such a situation, audio-tape can only be used for feedback.

A microteacher can have self feedback from videotape and audiotape. After his lesson is over, these gadgets can be replayed and he can identify his desirable and undesirable behaviours. But the use of audiotape is limited in this regard as it records only the verbal behaviour. Therefore, this source is more useful for practice of verbal skills and less useful for skills which have non-verbal behaviours compdents.

The findings of a number of studies conducted in this regard also reveal that audiotape feedback can be as effective and sometimes more effective than videotape feedback for acquisition of verbal skills (Gall et al,1971 shively at al., 1970, x ward, 1970;)

College Supervisor and Peer Supervisor

Another source of feedback is college super-visor is that student teacher receives feedback from an experienced teacher. educator in a training college.

Yet another source of feedback is peer. Here a student teacher provides feedback to his fellow student teacher. In our country, where videotapes are not available in teacher training institutions, and the use of audiotape

hardly needs any emphasis. It appears to be the most significant source of providing feedback to trainees. Field studies sponsored by the Department of Teacher Education have revealed that the college supervisor feedback is effective in developing general teaching competence in secondary student teachers(Das et al, 1976). Some researchers outside India have also found that tutors are effective in relation to changes in teaching behaviour of students in microteaching (Mc knight 1971; Orme 1966; Mc Donald and Allen,1967).

In our training colleges the teacher-trainee ratio generally much higher than 1:10. Because of this high teacher and trainee ratio, organisation of microteaching programme for student teachers becomes difficult. It was therefore, thought as to whether peers could also be used for providing feedback. Research studies conducted in this regard by and large have revealed that peer feedback is as effective as college supervisor feedback. (Das et al 1977 and 79). In the light of these results peers can also be used to provide feedback. alongwith College supervisor.

Pupils' Feedback

In the Indian model of microteaching developed by the Department of Teacher Education, NCERT, peers (student teachers) comprise microclass. In some other countries, real pupils make up the microclass. Studies have been conduct

to determine the value of pupils' feedback. Tuckman and
Oliver (1968) who compared the relative efficacy of four
feedback conditions pupil feedback; supervisor's feedback;
both pupil and supervisor's feedback
and no feedback report d that both the treatments involving
pupil feedback produced significantly greater change than
other two conditions. In this connection, Morrison and
Me Intyre (1973), however, su est that pupil can be
effective only "when the same pupils are involved in micro-
teaching ov r a considerable period and are trained in the
use of rating scales or other instruments".

After reviewing the different sources of feedback and
their relative efficacy, it can be concluded that for
developing competence to use specific teaching skills and
general teaching competence of the trainers teachers, we
may use both the sources of feedback-college supervisors
feedback and peer feedback.

Guiding Principles for Providing Feedback

The following are some of the guidelines which a
supervisor should keep in mind while providing feedback
to a teacher trainee. This would make the feedback more
effective.

The supervisor should first highlight the positive
points in regard to the acquisition of the particular
teaching skill being practised by him. This builds up the
self confidence of a microteacher, enhances his self image,

2.   After appreciating the positive points, the
supervisor/draw. the attention of the trainee to other
should
components of the skill in which the former considers
the latter to be weak. He may thus impress upon him
the need to master these component behaviours of the
skill. He should also assure the trainee that with little
more practice, he would be able to master these component
behaviours.

3.   The supervisor should try to see that feedback
session takes the form of informal setting. This is because
a trainee's receptivity of feedback is likely to be greater
in as informal setting.

4.   The feedback needs to be provided in a non-threatening
way.

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MICROTEACHING SETTING

This section deals with microteaching setting comprising such variables as number of pupils comprising a microclass, time duration of a microlesson, time duration of different steps in a microteaching cycle, the nature of pupils in a micro-class-real or peers, and the type of supervisor. Having gone through this section, you are expected to realise. the objectives given in the box

1)	Know the elements of a microteaching setting.
2)	Can take about the a decision. about size of a class in a microteaching setting.
3)	Know the time duration of a microlesson and different steps of microteaching cycle.
4)	Know about the strengths and weakness of using real pupils and peers as pupils in a microteaching class

The said variables involved in a microteaching setting are described below one by one.

Size of the Class

Central to the concept of microteaching is the notion of reducing the number of pupils in the class. A class, in a microteaching setting, consists of five to ten pupils. The reduction in the number of pupils in the class lessens complexity of the 'learning to teach' situation. It enables a microteacher to have a better control over the class. Relieved of the problem of discipline, the microteacher can focus his all efforts on the practice of the substantive skill component

behaviour. In our situation, we normally use 5 - 6 pupils in a microclass. However, this is not prescriptive. There can be marginal adjustments in view of the local situation.

Time Duration of Microlessons

Another element of microteaching setting refers/ to duration of a microlesson. As compared to normal teaching situation, microteaching lesson time is also reduced. This also reduces some of the complexity of learning to teach 'situation and gives the student teacher increased opportunity to concentrate on the skill under practice. Usually, the duration of microlessons is 5 - 10 minutes. The duration of five minutes was found sufficient by researchers at Stanford University. They also felt that the length of lesson was not a major factor in skill learning (Hargie and Maidment, 1979).

At many colleges, the length of lesson is, however, increased gradually as a student teacher progresses through his microteaching programme. After practising a number of skills, the time duration of a micro lesson is increased from five to ten minutes which the students find more rewarding (Hargie and Maidment, 1979). For the skills of 'set induction' and 'Closure', the time duration of the lesson is increased from five to fifteen minutes. The rationale for increasing the length of a micro-lesson for practising the said skills is that how can a microteacher be expected to close a lesson which he has not taught or open a lesson which he does not intend to teach.

The notion of increasing the time duration of microlessons gradually has been found to be useful by Hargie and Maidment as it takes gradually the microteaching exercise to more meaningful and realisti situation.

In the Indian model of microteaching developed by the NCERT, the time duration of a microlesson is kept six minutes. The experience has shown that a period of six minutes is adequate for the practice of a teaching skill.

Duration of different steps in a microteaching cycle

It has already been discussed in unit two that a microteaching cycle consists of Teach, Feedback, Replan, Reteach and Refeedback steps. A student teacher is required to complete as many cycles as may be needed to attain mastery over a teaching skill. It has however, been found that secondary student teachers, in general, attain a desirable level of mastery over a teaching skill after completing two cycles (Das et al, 1979). Attainment of a 5 point rating in regard to mastery over a teaching skill on a seven point rating scale is considered as the desirable level of mastery. The time duration for different steps a microteaching cycle is different in different universities and college of education.

However, the duration for different steps of a microteaching cycle as evolved through experience in the Indian model being implement by the NCERT, is as below:-

1)	Teach	—	6 minutes
2)	Feedback	—	6 "
3)	Replan	—	12 "
4)	Reteach	—	6 "
5)	Refeedback	—	6 "

36 minutes.

The total time duration of a microteaching cycle is 36 minutes.
This has been found to be workable by the Colleges of Education using
microteaching in their student teaching programme in the country.

Nature of Pupils for Microclass

In a microclass, there can be real pupils or peers acting as pupils.
In the basic Standford model, the microclass consisted of real pupils. At
many colleges of education in U.K. where microteaching technique is used
for developing teaching competence in student teachers, real pupils still
constitute a microclass. Using real pupils in a microteaching setting
has a number of advantages. The first advantage is that setting is more
nearer to real situation; and as such, training exercise in the setting
is more meaningful. The second advantage is the transferability of
acquired skills to real situation increases. But using real pupils
poses a number of problems particularly, in our country. If real pupils
are brought to the training colleges during school hours, these pupils
suffer because they are not being benefitted as to what is taught to their
peers in their respective classrooms. Sometimes, Heads of schools do not
want to spare their pupils at all with the result that training college
teachers find it different to organise microteaching sessions. Many
training colleges, therefore, bring pupils to their colleges after
normal school hours and these pupils are paid for the time spent in
microteaching sessions. Besides the payment to pupils, training
colleges have to bear the transport charges for bringing pupils to their
colleges and leaving them to their homes.

Because of the afore mentioned organisational problems and the
financial implecations some colleges tried out peer student teachers
instead of real pupils for the practice of teaching skills using
microteaching. When peers act as pupils in a microteaching., the setting
is said to be simulated or an artificial one. It is far removed from the
realistic setting. At one place, it was found out that student teachers
were unhappy while teaching a peer group and indicated that they saw no
relevance in such a exercise, and found it quite difficult in many
instances to maintain any serious discussion in the microlessons.
(Hargie and Maidment, 1979). Because of this, a doubt arises whether
training provided to student teachers for acquisition of teaching skills
in simulated conditions can be meaningful and useful for teaching in a
real classroom setting. Before finding an answer to the aforesaid
question, let us review the training procedure in some other professions,
We find that pilots are trained in the 'artificial' circumstances of the
link trainer; driving schools have their traffic simulators and medical
students their cadavers. Training to soldiers to combat in the battle
field is also provided in simulated conditions. An important advantage o

simulated conditions is that a trainee is introduced to training in a
non-stressful conditions. Stressess and strains of a real situations are
gradually introduced into the training situation. Simulated condition
gives a trainee a greater control over the elements involved in his
training.

In view of the usefulness of simulated conditions in the training of pilots, doctors, drivers, studies have been conducted to determine the comparative effectiveness of microteaching settings with real pupils and peers in the development of general teaching competence in student teachers. These studies have revealed that both of these settings are equally effective (Das et al, 1977 & 79). Goldthwaite's study (1969) also indicated that it was a valuable learning experience for peers, in terms of improving their own teaching performance, to participate as pupils in microteaching.

In the light of research studies mentioned earlier, peers are used as pupils in the microteaching model developed by the NCER&T. In this model, peers also act as supervisor as already discussed in the earlier section. A student teacher is, therefore, required to perform three different types of roles. He acts as a student teacher acquiring teaching skills, plays the role of a supervisor and also acts as a pupil, in the microclass. These different types of roles help him to gain different types of experiences which facilitate acquisition of teaching skills.

Some practitioners advocate that when peers act as pupils in a microteaching setting, peers should be assigned different roles to perform. Each one should be asked to manifest behaviour either of a high achiever, low achiever, dull student or a problem student etc.. It is argued that when these roles are assigned, the microteaching setting moves nearer to a real setting. But experience has shown that role playing is not very useful for practice of a number of skills.

It is shightly useful in the skill of lessons management of pupil responses. It is, therefore, emphasised that role playing by student teachers may be used discretdy with a caution.

Supervisor

For providing feedback to teacher trainees, use of college supervisor is indispensable. In the NCERT model of microteaching peer supervisor and college supervisor both are used for providing feedback to trainees. In a teacher training institution where the teaching staff is inadequate, use of peer supervisor for providing feedback is very helpful and useful. The relative efficacy of these sources of feedback and others has already been discussed in the section entitled 'Feedback'.

INTEGRATION OF TEACHING SKILLS

OBJECTIVES

In this unit, you have already studied concepts of modelling, feedback and microteaching setting. This section presents to you the need for training in the integration of teaching skills, meaning and definition of the term—integration, different strategies of integration and tools needed for assessing the quality of integration in a lesson. The section also presents in brief, the concept of 'Mini Teaching'.

After reading the section, you are expected to realise the objectives given in the box.

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o Understand the use for training in the integration of teaching skills.

o Know the meaning and definition of the term, integration in the concept of teaching skills

o Know the different strategies of integration of teaching skills

o Know about the evaluation tools to be used for assessing the integration of teaching skills

o Know the concept of Mini-teaching.

Why Integration of Teaching Skills ?

One of the criticisms generally levelled against existing practice teaching programme is that student teachers after being taught principles of teaching are sent to schools for practice teaching. This procedure is compared with an individual who after having been taught principles of

swimming, is dropped into the deep end of a swimming pool to
learn swimming. The individual struggles for life. If he
succeeds, he learns swimming. It may also happen that he
may get drowned. Such a procedure in the training of teacher
may work with some student teachers, but it is likely to des
troy the confidence of others.

In the microteaching approach, student teachers are pro
vided a simplified and controlled situation in which they
undertake practice for acquiring teaching skills one by one.
After skills are acquired by student teachers in microteach-
ing settings, they are sent to schools for practice teaching
in real classroom settings. It is argued that even in this
approach we do not prepare teachers for teaching practice in
real classroom setting. No doubt, we are not throwing stu-
dents in at the deep end. What we are doing is that we allow
them to master isolated teaching skills for a time and then
we proceed to throw them in at the 'deep end'. The are not
provided any training in the training college to integrate
individually mastered skills. The result is vicarous inte-
gration/the teaching skills. Can this be improved through
systematically, planned integration is a relevant question
here. Theoretically, it is not only possible but desirable
as well. This intervention serves as a bridge between train-
ing in isolated skills and the real teaching situation,

The integration of teaching skills in the context of
microteaching referred to earlier raises several questions
for consideration. What is meant by the integration of teach
ing skills? Does it take place vicariously in a real classro
setting or some training is needed ? What are the different
strategies of integration of teaching skills. Answers to

these questions and some other related questions are attempted
in the following discussion.

Integration Defined

Integration requires an ability on the part of a student
teacher to (a) perceive the given teaching situation; (b) exa-
mine the repertoire of the component teaching skills with
him (c) select and organise them into a sequenced pattern
of the component skills to realise the instructional objec-
tives; and (d) use the component teaching skills in the de-
sired sequenced patterns with ease and fluency. Integration
of the component skills in this context refers to the process
through which this ability is acquired by a student teacher.
Integration can thus be defined as the process through which
a student teacher acquires the ability to perceive with pre-
cision the teaching situation in its entirety, select and
organise the component teaching situation in the desired
sequence to form effective patterns for realising the speci-
fied instructional objectives and use them with ease and
fluency.

The Process of Integration

An important question which needs consideration is whe-
ther integration of teaching skills occurs automatically without
deliberate efforts after the acquisition of the component
teaching skills individually through microteaching or does
it require delibrate planning and training ?

The reaction to the questionposed above are mixed. A
group of experts in the area maintains that what is important
is the mastery of the component skills. Once the component
skills are mastered adequately, the student teacher can pick
and choose from his repertoire teaching skills as per needs

of a particular teaching situation. The decisions to be taken
in various teaching situations are so local and specific that
they are almost subjective. These decisions cannot be antici-
pated. So, specific training in integration of the component
skills is a myth. There is, therefore, no need for delibrate
planning. Integration takes place automatically through ex-
perience in real teaching situation.

There is another group of experts which considers that
uni-skill training through microteaching idiosyncranises the
teaching behaviour of student teachers. Unless specific attem-
pts are made to smoothen these idiosyncratic behaviours through
integration exercises, the student teacher will fail to achieve
an optimumintegration of teaching skills with the result that
teaching behaviours will permanently establish themselves in
student teachers. Integration training exercises, according
to this group, is essential to smoothen and harmonise the edges
of the teaching behaviours.

The truth seems to lie nearer to the second position. For
a student teacher, the shift from the uni-skill training
through microteaching to a rea⁻ teaching situation is an abru-
pt one. In order to smoothen this abrupt shift, bridges have
to be built. The bridges will have be formed through training
in graded integration exercises based on the successively in-
creased number of the component skills till the student tea-
cher reaches the final integration of the component skills
culminating in actual teaching. Practice of the individual
component skills using microteaching technique prepares the
student teacher for teaching, while integration exercises
smoothen the transition from the simple laboratory training
situation to the complex teaching situation in a natural sett-
ing. This implies that the integration process is located

somewhere between microteaching and the actual teaching situation.
The organisation of training in integration of the skills appears
to be a difficult talk indeed due to the highly local specific
teaching decisions a student teacher is required to take in a
particular teaching situation. But despite this serious limita-
tion, the integration exercises appear to be indispensable to
help student teachers by way of (a) smoothening the transition
from the laboratory training situation to actual teaching situa-
tion; and (b) providing practice in making decisions regarding
the synthesis of the component skills in selected teaching
situations.

There appears to be atleast two major dimensions of the
process of integration of component skills - subsumption dimen-
and the additive dimension. The subsumption dimension
sion/represents the vertical dimension of integration, while addi-
tive dimension indicates the horizontal dimension. The subsum-
ption dimension is based on Gangne's heirarchical analysis of
the learning task. Here, the presumption that teaching is a
complex teaching skill can be analysed into its simpler component
skills is carried further. The component skills in a particular
class are arranged in the heirarchical order according to the
levels of their complexity.

Integration Strategies of Teaching Skills

There are a number of integration strategies of teaching
skills. Those are discussed below:-

1) No Strategy : No strategy is also a strategy of integration.
This can be the prevalent practice wherein a student teacher pro-
ceeds from microteaching setting to a real teaching setting
directly. He is not provided any training in the integration
of skills in a microteaching setting. He integrates the teach-
ing skills in a real classroom setting only.

2) Summative Strategy

In this strategy, training is provided to student teachers
to integrate the individually mastered skills in a microteaching
setting. The time duration of this training exercise is, how-
ever, increased depending upon the number of teaching skills to
be integrated. For instance, if student teachers have mastered
five teaching skills individually i.e. S_1, S_2, S_3, S_4 & S_5, the
training is provided to them to integrate these skills in a
controlled setting. In this training exercise, time duration of
the lesson is increased from 5 minutes to 12 to 15 minutes.
Since the time duration is increased, the length of the lesson
will be increased accordingly. The lesson is observed and feed-
back provided. Training exercise continues till the student
teachers acquires a seasonable level of mastery over the inte-
gration of the said skills - S_1, S_2, S_3, S_4 & S_5. After he
attains mastery in the integration of these skills, he is asked
to practice teaching in a real classroom setting. Given below
is a table which gives the time duration of a microlesson in th
exercise for integration of teaching skills.

Time duration of the Training Exercise in the Integration
of Teaching Skills.

S.No.	Mastery of the Skill	Time Duration	Integration Skills	Time Duration
1.	Skill$_1$	5 mts.	—	—
2.	Skill$_2$	- do -	—	—
3.	Skill$_3$	- do -	—	—
4.	Skill$_4$	- do -	—	—
5.	Skill$_5$	- do -	S_1, S_2, S_3, S_4, S_5,	12 to 15 minutes

5. Additive Strategy

This strategy is different from the summative one. In this strategy, training is provided to a student teacher to integrate the first two mastered skills before he proceeds further to master another skill. For instance, when a student teacher has mastered two teaching skills - skill of reinforcement and Skill of probing questioning (S_1 & S_2), he is provided training to integrate these skills first before he undergoes practice to master the third skill - say the skill of stimulus variation. Training exercise continues till he acquires a reasonable level of mastery over the integration of these two skills (S_1 and S_2) thereafter, he again undergoes practice to master another skill say the skill of stimulus variation. After mastering this skill, he undergoes practice for integration of three skills i.e. skill of reinforcement, skill of probing questioning and the skill of stimulus variation. After attaining mastery over the integration of these skills, he proceeds further to acquire another skill say the skill of Illustrating with Examples. He then undergoes practice for acquiring ability to integrate the said four skills. This process continues till he develops and integrates the desired number of skills.

In this strategy, time duration and length of a microlesson is gradually increased as the student teacher increases the number of skills to be integrated. Given below is a table which gives time duration of microlesson

Time Duration of the Training Exercise in the Integration of Skills.

S.No.	Mastery of Skill	Time Duration	Training Exercise in the integration of Skills	Time Duration of the micro lesson for the integration of skills
1.	Skill of Reinforcement (S_1)	5 mts.	--	.
2.	Skill of Probing questioning (S_2)	5 mts.	S_1 and S_2	8 mts.
3.	Skill of Stimulus Variation (S_3)	5 mts.	$S_1, S_2, \& S_3$	12 mts.
4.	Skill of Illustrating with Examples (S_4)	5 mts.	$S_1, S_2, S_3, \& S_4.$	16 mts.
5.	Skill of Explaining S_5	5 mts.	$S_1, S_2, S_3, S_4, \& S_5.$	20 mts.

4. Diode Strategy

In this strategy, training is provided to integrate two individually mastered skills. These skills are integrated in pairs After integrating the desired number of skills in pairs, all those skills are integrated. This strategy is in between the summ ative and additive strategies. It thus possesses the advantages of both of these strategies. While adopting this strategy of integration, it would be more useful if complementary skills are integrated in pairs. Time duration of a microlesson is also increased when skills are integrated in pairs. Given below is a table which illustrates the time duration of a microlesson in the integration training exercise.

Time Duration of the Training Exercise in the Integration of Skills.

S.No.	Mastery of Skill	Time Duration	Training Exercise in the integration of skills.	Time Duration
1.	S_1	5 mts.	–	8 mts.
2.	S_2	5 mts.	S_1, & S_2.	8 mts.
3.	S_3	5 mts.	–	
4.	S_4	5 mts.	S_3 & S_4	8 mts.
5.	S_5	5 mts.	–	
6.	S_6	5 mts.	S_5 & S_6	8 mts.
7.		–	S_1 to S_6	25 mts.

This process continues till the desired number of skills are mastered in pairs and integrated finally. After mastering the skills in controlled settings, student teachers are asked to undergo practice teaching in real classroom settings.

5. Subsumption Strategy

This strategy is based on Gagne's heirarchical analysis of the learning task . It represents vertical dimension of integration of teaching skills. Here the presumption that teaching i a complex teaching skill which can be analysed into its simpler component skills is carried further. The component skills in a particular class are arranged in the heirarchical order according to the levels of their complexity. This strategy can be operationalised with an example from the area of classroom questioning skills.
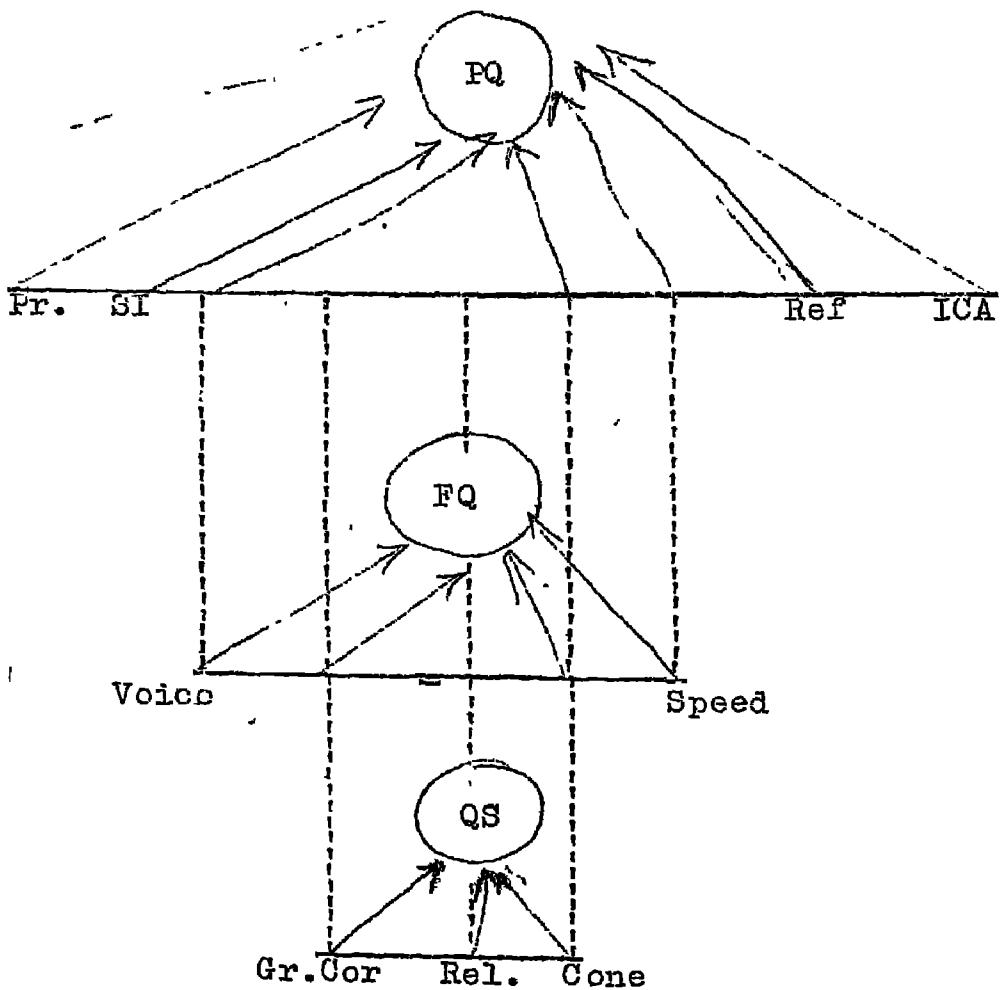
Diagram : Hierarchy of Questioning
No. I   Skills Subsumption strategy.

QS : Structuring Questions

FQ : Fluency in Questioning

PQ : Probing Questioning.

The skill components of grammatical correctness, rele-
vance and conciseness from the component skill structuring
of questions. In the next stage, the use of the three
. skill components will continue in structuring questions. The
addition of voice and speed components will develop the

ccmponents skill of fluency in questioning. The addition
of the skill components of prompting, seeking further in-
formation, refocussing, redirec- and increasing critical
awareness will develop the probing questions. The increas-
ing levels of questions to be asked can also form one of
the stages. Here each simpler level subsumes in the sub-
sequent more complex skill. Similarly, hierarchies can be
established in respect of motivational and explaining skills.
The time duration of the microlesson and its length will
increase progressively as the student teachers moves for-
ward towards complex skills.

Subsumption - Addition Strategy :

This strategy is eclectic in approach and account for
the complex nature of the teaching skills and their inte-
gration. In constrast to linear integration, the complexity
of the integration of component skills has been represented
in the diagram given below.
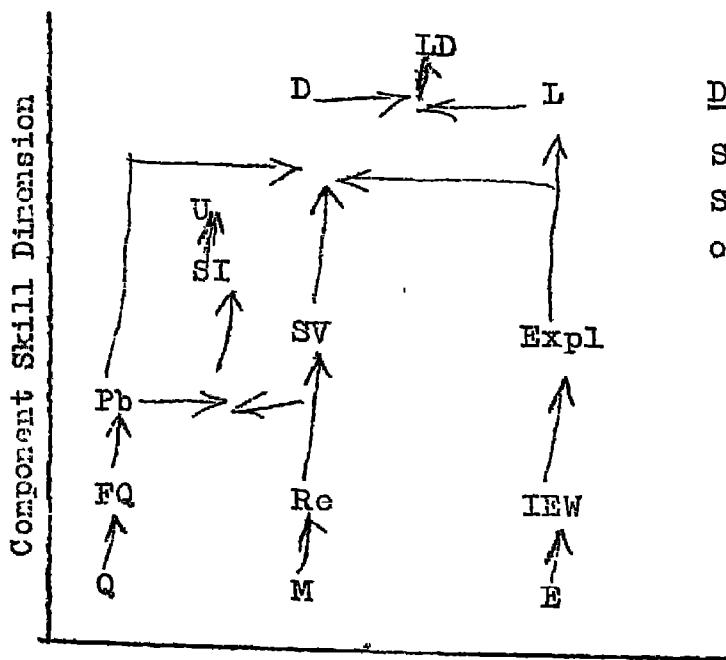
Diagram 2

Subsumption - Addition
Strategy of Integration
of Component Skills.

Functional area dimension.

Questioning (Q), Motivational (M) and Explaining fall on
the functional area horizontal dimension, while component
skills fall on the vertical dimension. Fluency in Ques-
tion (FQ) integrates horizontally with Reinforcement (RC)
to develop the integrated component skills of set Induction
(SI) and Closure (Cl). Illustration with Example (ICV)
and Stimulus Variation (SV) integrates into the Explaining
(Expl.) skill. The Explaining Skill, Probing Questioning,
Stimulus Variation and Reinforcement integrate to form the
Discussion skill (D). The Explaining Skill through ver-
tical integration form the skill to Lecture (L). The process
of this type can be further refined through more exercises.
The length of the training lessons and the concepts to be
used will increase progressively as the process moves
forward towards complex skills.

This section has suggested several strategies for
the integration of teaching skills. These strategies have
been formulated in logical operations. Studies are needed
to determine the comparative effectiveness of these different
strategies of integration of teaching skills in order to
improve the efficiency of the microteaching technique.
The department of teacher education has sponsored a field
study in which relative efficiency of some strategies of
integration is being determined.

Evaluation Tools

While attaining mastery over different teaching skills, a trainee acquires behaviours which are different components of the skill under practice. His acquisition of the skill is evaluated in terms of behaviours/components of the skills which he is able to produce in the microteaching setting. The unit of training is, therefore, is the component behaviour of the skill. In integration, however, the unit for training is the component skill and as such the evaluation tool includes items on component skills under practice rather than skill components.

In addition to the use of the component teaching skills in a particular integration exercise, the process envisages the criteria of relevance, sequencing, flexibility, the case and fluency with which component skill can be used. So, the tool to evaluate integration contains items on each of the component teaching skills under the process of integration at a particular stage as well as items concerning the criteria of relevance, sequencing, flexibility, ease and flexibility. Such a tool is used for measuring the level of integration and for providing feedback to student teachers. A tool for the purpose is in the process of development.

Spirit of Inquiry

The concept of integration of component skills is still in its embryionic stage. The conceptual framework, modus operandi for its training, evaluation and measurement tools, the mode of providing feedback in this vital area of microteaching provide fertile ground for research, experimentation and innovation.

The area should be considered as open for inquiry rather than
taking the things at their face value.

Mini Teaching

The concept of mini-teaching emerged and developed at
Ulster College in 1975. This approach is closely related
to microteaching approach in some respects. But it also
incorporates a number of features which differ from the in-
itial Stanford design. While defining mini-teaching, Hargie
et al (1978) mention, "Mini-teaching has a central element
the notion of breaking the complex act of teaching, scaled
down in its component teaching skill areas
This involves firstly the identification of discrete skill
areas which seem to be operative in the overall act; secondly
the training of each of these skills in isolation from other
skills; thirdly the gradual integration of these skills and
finally the utilization of all these skills in the complete
act. Thus it is argued that social skills can be acquired
in a manner similar to that followed in the training of
motor skills, whereby the act is broken down and gradually
reconstructed".

The importance of mini teaching lies in the fact that
it emphasises the integration of teaching skills. It is an
extension of the microteaching approach rather than an
alternative method for training of teachers. The time dura-
tion of the microlesson, the length of the microlesson and
the number of pupils comprising the class are progressively
increased as a student teacher moves towards integration
of more and more individually mastered skills. Mini-tea-
ching is a bridge between microteaching setting and actual
classroom setting. Miniteaching facilitates the transfer
of skill mastery to actual classroom situation.

Both the approaches i.e. Microteaching and Miniteaching differ in a number of respects. Firstly in the latter approach, 'reteach session' which is very emphasised in the former, is abondoned. Secondly, in the microteaching approach, mastery over individual skills is attained in simulated settings with real pupils or peers. Miniteaching stands for conditions that approximate to real ones. In microteaching, the size of the microclass consists of 5 to 10 pupils, whereas in the miniteaching, the number of pupils is progressively increased from 5 to full class. In microteaching approach, teaching skills are mastered one by one and no attempt is made to integrate these teaching skills, while the mini-teaching is for the integration of skills at certain stages.

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UNIT FIVE — ORGANISATION

OVERVIEW

Unit one helped you to assess the weakness of the student teaching programme being followed in our Colleges of Education. Unit two provided to you an idea about the potentiality of microteaching to strengthen the existing student teaching programme. The Unit also explained the meaning, concept and procedure of microteaching. You were exposed to the analysis of teaching into skills with definitions of the allied terms. Unit four presented the components of microteaching — modelling, feedback, setting and integration — in a little more detail that they were presented in unit two. The knowledge about the various aspects of microteaching presented to you in these units must have stimulated you in trying out the technique in your own institution to improve the student-teaching programme. Naturally, several questions might have arisen in your mind immediately. Can I introduce microteaching in my institution? Is it ripe time/for adoption of this innovation? If yes, how can I do that? What preparations will have to be made to do that? What organisational steps are involved in this task? This unit presents the organisational aspects of microteaching.

OBJECTIVES

Upon reading the unit, you are required to realise the specific objectives outlined in the box

below:

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o   Know the organisational steps involved
    in practising teaching skills using
    microteaching.

o   Know the resources needed for organising the
    the practice of teaching skills through
    microteaching.

o   Given the facilities, can prepare a
    schedule for the practice of teaching
    skills through microteaching.

o   Know the considerations in allocating
    roles to different persons while organising
    practice in teaching skills through
    microteaching.

o   Know how to evaluate the programme of
    practice of teaching skills through
    microteaching.

ORGANISATIONAL STEPS

The organisation of microteaching in the Colleges of
Education for practising teaching skills with a view to
preparing for the block student teaching programme involves
several decisions to be taken, identification, mobilisation
and management of facilities, management of the personnel,
scheduling, implementing the programme and evaluating.
This requires careful planning. This section deals with

the various organisational steps.

1. Crucial Decision

The institution is to take the crucial decision to
introduce microteaching. The decision comes through two
distinct ways. Firstly, the university includes it as an
integral part of student teaching in its curriculum. So,
the Colleges affiliated to the university have to arrange
for it. Secondly, the university has either not taken a
decision to include it in the curriculum formally as yet or
it is in the process of doing it. It is likely to take some
time. The decision to adopt the technique is easier in
the former case. The only requirement is preparation. But
the decision is a little difficult to take in the latter case.
One is likely to face a number of hurdles, since the faculty
members may consider this as a threat to their competence, they
might be skeptic about its utility and effectiveness; there
might be difficulties in the way of getting practice in
teaching skills through microteaching accounted for in the
block student teaching and so there might be resistance from
the trainees for additional work. These and many more obstacles
may come in the way of the decision to adopt microteaching
for practising the teaching skills.

In a situation as the one outlined above, the decision
may not be unnecessarily hastened through, since this hardens
resistance in some of the faculty members. The alternative is
to organise a seminar or a discussion on microteaching. This
can be done by one or two staff members who know about the
technique. The decision may be fair and free from personal
biases. Of course, the discussion will be organised in
consultation with the Head of the Institution. If possible,

the objectives of the discussion may be circulated a few
days earlier. If some reading material is available, it
may be placed in the library for consultation by the
staff members. Ultimately, a decision regarding the try out
of the technique on a limited scale according to the number
of trained personnel may be planned for the first year. This
will be helpful in several ways. Firstly, on a limited
scale, it will be possible to manage the try out competently.
Secondly, the limited try out will provide you with the
necessary experience and the confidence arising out of it.
Thirdly, some of your colleagues will also gain experience
in the use of the technique. Lastly the trainees will
also have a feel of it. The experience has been that they
get so interested that they are ready to work even outside
college. The trainees sharing of their microteaching
experience with other trainees stimulates more to practice of
teaching skills through microteaching. So, through careful
presentation, discussion, persuasion, the decision and
commitment of the Faculty for introducing the innovation in
a phased manner may be obtained. This is the precondition
for the successful use of the technique in the student
teaching programme.

2. Selection of Skills

    As has been pointed out unit three, there are number of
teaching skills. Twenty skills have been identified here
(Passi, 1976, Jangira 1979). How many skills are to be
selected for practice by the student teachers? Which skills?
A decision has to be taken on these points. The number of
skills will depend upon the time available for practice
teaching. In case the time is limited, priority skills will
have to be selected. Foundational skills like questionning,

reinforcement, explaining, illustration with examples, probing may be given priority. If time permits, skills like increasing pupil participation, introducing the lesson, achieving closures can be considered. Another way is to group student teachers and provide training in the skills they are found deficient. This helps in economising time and other resources (Jangira, 1980). Decision regarding the selection of the teaching skills to be practised by the student teachers is to be taken by the faculty.

3. Collection/Preparation of Instructional Materials

Instructional material on the concept and procedure of microteaching as well as on the teaching skills selected for practice may be collected. Materials in the Indian context is available in (Passi 1976, Singh 1978, Jangira and Singh 1979). A textbook on Core Teaching Programme for the secondary colleges of education following this approach is also being prepared. In case the medium of the training is going to be the regional languages, the material may be translated into the regional language. Sufficient copies of the observational schedules and sample micro lessons on the skills may be kept ready. If some skill has been identified or selected by a particular college on which instructional material is not available, the same may be prepared in advance. Availability of the preferably printed or mimeographed material with each student teacher is essential for effective practice.

4. Arrangement of Facilities

Once the decision and the commitment to introduce
microteaching in the college have been made, the next logical
step is to arrange for the facilities. As pointed out in
unit two under the Indian model of microteaching, gadgets are
not essentially required for its introduction. The essential
facilities are (a) space for teaching; (b) space for feedback,
(c) space for replan; (d) blackboard and chalk etc; and
e) College supervisor. You will agree with us that these
facilities are available in all the Colleges. The variables
can be in terms of quantity. The real task will be the
management of the available facilities, since a suitable
schedule and time table can be prepared keeping in view the
available facilities. The model of utilisation of these
facilities will differ from college to college. One thing
can be taken for granted in this regard that the availability
of facilities is not an obstacle in the way of introducing
microteaching. It can be introduced with whatever facilities
are available with the Colleges of education. In the event
of space shortage, feedback sessions can be organised in
groups in corridors, or even under a tree. In the latter
case, individual feedback can be given. It will also
economise time since the room can be utilised by another
student teacher for teaching session. Same is true of
replanning. This can be done in library or any other
place. In the case of adverse teacher pupil ratio which
is a reality in a number of Colleges of Education, peers,
i.e. student teachers can be trained for providing feedback.
This will be discussed in a little more detail under
schedulding.

5. Role Allocation

In microteaching different persons are to perform their assigned roles. Student-teachers are to perform different roles. They have to be the microteacher, peer supervisor, and pupils. It is essential that the student teachers, college supervisor and any other functionary if involved, have a clear perception of their role and the way they are required to perform the same. So, it is not merely a question of role allocation, but also helping each functionary to understand his role.

6. Training in Observation

College supervisors, and peer supervisors are required to observe teaching for providing feedback to the microteacher. So, it is desirable that they are provided training in observation following the methodology to be used. General training in observation, recording, inferencing is provided at this stage. Observation of specific skills may be given at the time of orientation.

7. Scheduling and Time Tabling

Schedule for various steps of the microteaching programme and time table may be prepared in advance. This will include timings, role of each student teacher at a particular point of time, allocation of the college supervisors to different groups, the place allocated for different microteaching steps to the groups. The size of the group of student teachers, as has been pointed out earlier, depends upon institutional

facilities like the number of student teachers, number of
the college supervisors available for the student teaching
programme, and number of rooms available for the practice
of microteaching. These facilities vary from institution to
institution, so will vary the group size and scheduling.
However, a group of 10-12 student teachers is quite convenient

Besides instructional facilities, several other
decisions have to be taken for the preparation of the
schedule, for example, should the college supervisor
invariably provide feedback to all the student teachers?
If yes, implication is that/he has to observe teaching sessions
of all the student teachers. Should the feedback be provided
individually or in group? If it is to be provided individually
two college supervisors are needed. One observes and goes
out to provide individual feedback. Meanwhile, the other
college supervisor will observe the teaching of the next
student teacher. After this, this college supervisor will
go to provide individual feedback to the student teacher,
the first college supervisor will come back to observe
the next student teacher. In case two college supervisors
are not available for each group and essentially college
supervisor feedback is considered essential, the feedback
can be provided in group. Should peer provide feedback or
should college supervisor and peer provide feedback? Should
the cycle of teach-reteach be run continuously one after
another or should half the group complete teach-feedback,
replan in group and then reteach - refeedback be provided
later on? Should reteach be done on the same day or next
day? Should reteach be done with the same pupils or
different pupils? These are some of the decisions which

need to be taken for scheduling. Some sample schedules
are presented in this section. These are not prescriptive.
These schedules/illustrative of the technique of preparing
schedules. Each institution will have to prepare its own
schedule according to the available facilities and decision
it takes regarding the role of the supervisor vis-a-vis
microteaching practice and other related decisions pointed
out in the preceding part.

Schedule I

Considering a college has 100 student teachers, 5
college supervisors and six rooms for the practice of
microteaching. Ten groups of 10 student teachers each can be
prepared and two groups can be placed under one college
supervisors. Suppose the college has decided that each
student teacher is to be observed and provided feedback
by the college supervisor. Only one college supervisor
can be given for observation and providing feedback to
student teachers in a group. It is also decided that half
day will be devoted to practice of microteaching and half
to theory classes. The schedule prepared by this college
is given in table 5.1 below. The first column gives time
duration of microteaching step. Numbers 1-10 represent the
student teachers. Column 2 is meant for the teach session
and column 3 for feedback session. Column 4 indicates
the student teachers who are required to play the role of
pupils.

TABLE 5.1

Schedule for ½ Cycle of Microteaching Practice for a group of 10 student teachers.

Time duration	Teach	Feedback	Pupils
0-6 mts.	1		6-10
7-12 mts.		1	
13-18 mts.	2		6-10
19-24 mts.		2	
25-30 mts.	3		6-10
31-36 mts		3	
37-42 mts.	4		6-10
43-48 mts		4	
49-54 mts.	5		6-10
55-60 mts.		5	
61-66 mts.	6		1-5
67-72 mts.		6	
73-78 mts.	7		1-5
79-84 mts.		7	
85-90 mts.	8		1-5
91-96 mts		8	
97-102 mts	9		1-5
103-108 mts.		9	
109-114 mts.	10		1-5
115-120 mts.		10	

Replan by all of the 10 student teachers (12 minutes)

Repetition of the above schedule for the second ½ cycle.

It will be seen in the above table that replan is done by all in a special period of 12 minutes provided for the

purnose. Secondly, all have been provided feedback
in group only; because the condition was that each
lesson is to be observed by the college supervisor
and he is required to provide feedback to all. The
feedback, however, is immediate. Half microteaching
cycle takes two hours. The total time including
replanning takes 4 hours and 12 minutes. This
schedule is easy to prenare and operate. But some
student teachers may not take the feedback in the
group easily due to their shyness or other
personal reasons.

A college with 120 student teachers with the
same facilities as in the case of the first one
prepared another schedule. Their condition was that
college supervisor and pupil supervisor both should
provide feedback to the student teacher. Presence of
the College supervisor was considered necessary.

Table 5.2 gives the schedule prepared by this College.

TABLE 5.2

Schedule for ½ Cycle of Microteaching Practice for a Group of 12 student teachers.

Time duration	Teach		Feedback		Pupils
	mtr *	PS **	mtr *	PS **	
0-6 mts.	1	2			7-12
7-12 mts.			1	2	
13-18 mts.	3	4			7-12
19-24 mts.			3	4	
25-30 mts.	5	6			7-12
31-36 mts.			5	6	
37-42 mts.	2	1			7-12
43-48 mts.			2	1	
49-54 mts.	4	3			7-12
55-60 mts.			4	3	
61-66 mts.	6	5			7-12
67-72 mts.			6	5	
73-78 mts.	7	8			1-6
79-84 mts.			7	8	
85-90 mts.	9	10			1-6
91-96 mts.			9	10	
97-102 mts.	11	12			1-6
103-108 mts.			11	12	
109-114 mts.	8	7			1-6
115-120 mts.			8	7	
121-126 mts.	10	9			1-6
127-132 mts.			10	9	
133-138 mts.	12	11			1-6
139-144			12	11	

Replanning by all the 12 student teachers for 12 minutes.
Same schedule for the other ½ cycle comprising reteach and
refeedback. | * mtr. stands for micro-teacher.
** PS stands for peer supervisor.

an examination of the above schedule reveals that the
student teachers function in pairs in the teach and feedback
sessions. Firstly, student teachers with odd numbers work
as microteacher (mt) and those with even numbers as peer
supervisor (ps). The roles are reversed after the student
teachers complete the teach session. The full cycle takes
144 + 12 mts sinc the number of student teachers has increased
from 10 to 12. The College supervisor is resent in the
teach as well as feedback sessions of all the student teachers.
college supervisor and the peer supervisor both provide
feedback to the student teachers in the group itself.
Replanning is done by all at a time in a special period of
12 minutes for this purpose. Reteach and Refeedback follow
the first ½ cycle schedule.

In both the cases we see that a college supervisor has
two groups. So these two groups can be taken on alternate
days. If full day is allocated to microteaching practice,
then one group can be taken in the morning and another in the
evening. The group which is free when microteaching practice
of the other group is or can be engaged in library study,
self study or assignment. The allocation of rooms, college
supervisors, days and timings may be shown in the time table.

Let us examine a schedule prepared by another college.
The college had the same staff and faculties. But they
relaxed the condition of the college supervisor providing
feedback to each of the student teachers on all the time.
It was decided that peer supervisors can provide feedback

to the student teachers. College su ervisor can give
feedback atleast once to every student teacher on each
of the skills. The feedback to the student teachers
is to be rovided imm diately at the individual level
and not in grou s as has been the case in the earlier
two schedules. A schedule roviding continuous
activities under each of the ste s of microteaching
cycle is given in table 5.3. The table cont ins five
columns. First column indicates time dur ation; second
te ch session in which microteacher (mtr), eer
su ervisor (P 5) and College su ervisor (C5) have been
shown. Columns 3 and 4 are meant for re l nning
and the last one for u ils. Numbers 1 to 12 indicate
the student teachers. In columns 2 and 3 under the
College su ervisor, (/) indicates his resence and
x indicates his absence.

TABLE 5.3

Schedule for ½ cycle of Microteaching Practice for a Group of 12 Student Teachers.

Time duration	Teach Mtr. (a)	TS (b)	CS (c)	Feedback Mtr.	TS	CS	Replan	Pupils
0-6 mts.	1	2	/					7-12
7-12 mts.	3	4	x	12	2	/		7-12
13-18 mts.	5	6	/	3	4	x	1	2, 7-12
19-24 mts.	7	8	x	5	6	/	1,3	2,4, 9-12
25-30 mts.	9	10	/	7	8	x	3,5	1,2,4,6,11,12
31-36 mts.	11	12	x	9	10	/	5,7	1,2,3,4,6,8
37-42 mts.	2	1	/	11	12	x	7,9	3,4,5,6,8,10
43-48 mts.	4	3	x	2	1	/	9,11	5,6,7,8,10,12
49-54 mts.	6	5	/	4	3	x	11, 2	1,7,8,9,10,12
55-60 mts.	8	7	x	6	5	/	2,4	1,3,9,10,11,12
61-66 mts.	10	9	/	8	7	x	4,6	1,2,3,5,11,12
67-72 mts.	12	11	x	10	9	/	6,8	1,2,3,4,5,7
73-78 mts.	-	-	-	12	11	x	8,10	-
79-84 mts.	-	-	-	-	-	-	10,12	
85-90 mts.	-	-	-	-	-	-	12	

(a) Microteacher

(b) Teacher supervisor

(c) College supervisor

Repeat the same in the second ½ cycle comprising reteach-refeedback.

An examination of the schedule in the Table 5.3 reveals that it takes only 90 minutes for the half cycle for a group of 12 student teachers than 144 minutes in schedule in Table 5.2. The economy is possible due to a continuous chain of activitiy. This schedule, however, is a little more complicated than the one in 5.2. It is also a little difficult to operate because of the clocklike precision in the activities. But careful planning and commitment of all involved in the task can save lot of time. The schedule can be tried out.

The limitation of the schedule is revealed by the fact that college supervisor can be presented in teach and feedback session of alternate student teachers. In the next half cycle, the schedule may be arranged in a way that the college supervisor is present in the teach and feedback session of the student teachers not covered in the first half cycle.

Three sample schedules have been presented in this section. As pointed out earlier these are not prescriptive but suggestive only. After taking the requisite decisions in the light of the situation obtaining in the institution each college can prepare the schedule. As pointed out earlier, time table showing allocation of space for teach, feedback, replan sessions and allocation of the college supervisor to different groups may be prepared separately.

8. Implementing the Programme

Implementation of the programme of microteaching in an institution requires the following steps after the

preparation along the lines indicated above has been completed:

a. **Orientation about microteaching**

Orientation of the faculty was envisaged under step 1 above. Now is the turn of the student teachers. They need to be given an overview of the concept and procedure of microteaching, analysis of teaching into skills to be practised and the skill learning strategy. This may be done in an atmosphere of free and fair discussion.

b. **Skill Presentation**

One teaching skill selected for practice by the student teachers may be presented. The presentation or the modelling exercise includes discussion about its rationale and role in teaching, its meaning and definition of the allied terms, component teaching behaviours comprising the skill, sample illustrations of the component behaviours sample microlessons plans, and observation tools. Materials on selected skills has been provided in the second section of this handbook. More material is available in Passi (1976) and "Special Package on Core Teaching Skills" being prepared in the N.C.E.R.T.

c. **Skill demonstration**

This step is also a part of the modelling. After discussion of the teaching skill, the teacher educator gives a demonstration lesson on the use of the teaching skill. This lesson is observed and the teacher educator is provided feedback on the lesson based on systematic observation and recording as pointed out in Unit four.

d. **Preparation of Micro-lesson Plan**

The student teacher selects a concept for the preparation of the micro-lesson plan. The concept has to be such that it is

reasonably amenable to the practice of the
skill. The component behaviours of the skill
may be made conspicuous in the micro-lesson
through labelling in brackets. Samples are
available in section two of the handbook.
The lesson is confined to six minutes of teaching.

(e) Creating micro-teaching setting

Seating arrangements for the pupils for
practising the skill and college supervisor,
peer supervisor may be made. Black-board,
chalk, duster and other materials required
for the micro-teacher may be arranged.

(f) Practice of the skill

The student teacher teaches the lesson for
six minutes. The lesson is observed using the
observation schedule.

(g) Providing feedback

On the basis of the observations, the student-
teacher is provided feedback on his teaching
performance. The feedback is provided in
terms of his use of the component behaviours
comprising the skill under practice.

(h) Replan-Reteach-Refeedback

The student teacher replans his lesson in the
light of the feedback received. The lesson
is retaught and refeedback is provided as
in (f) and (g) above.

(i) Repeat the Cycle to mastery level

The student teacher repeats the teach-reteach
microteaching cycle till he attains mastery
over the skill under practice. The mastery
level will depend upon the efficiency with
which he can use it and the time available
for practice.

(j) Integration of skills

The skills are mastered as outlined
under steps (a) to (i) above. The training
in the integration of teaching skills may
be provided as indicated in unit four
of the handbook.

9. Evaluation of the Programme

At the end of the programme, the institution
may try to answer such questions as: "Has the programme
planned and implemented in the least possible manner?
What were the snags left in the programme? What can
be done by modifying the programme when it is to be
organised again? How can it be made more effective?
A scheme of 'at the end evaluation' and 'in the
process evaluation' can be drawn up for improving
effectiveness of the microteaching programme.

10. Continuous Search for Improvement

In the light of your experience of using micro-
teaching for developing teaching competence of the student
teacher, you may think about the improvements in its
practice. It is a continuous effort to improve its
efficiency which will make the programme of student
teaching, and thus teacher training, stronger each day.

TRY YOURSELF

1. I consider that the following factors
   determine the organisational set-up
   for the use of microteaching in my
   institution:

   _____

   _____

   _____

   _____

2. Suppose you have been called upon to
   introduce microteaching in your
   college with the existing facilities.
   Outline briefly the decisions and the
   facilities available in your institu-
   tion and prepare a schedule of ½ micro-
   teaching cycle for the practice of a
   skill.

UNIT EIGHT - THE SKILL OF REINFORCEMENT

OBJECTIVES:

Skill of reinforcement is one of the most vital teaching skills. This unit presents definition of the relevant terms and use of the skill of reinforcement; specifies component teaching behaviours comprising the skill; outlines guidelines for using the skill; and gives observation tool for providing feedback on the use of the skill in practice sessions. After reading the unit, you are expected to realise the objectives given in the box:

o Know the verbal and non-verbal reinforcers, negative and positive reinforcers.

o Know the definition of the skill of reinforcement.

o Know the components of the skill of reinforcement.

o Know guidelines for the use of the skill of reinforcement.

o Identify the component behaviours of the skill of reinforcement in a given lesson.

REINFORCEMENT

Reinforcement is a term taken from the psychology of learning. The term implies the use of the technique for influencing behaviour of individuals in desired direction. The concept of reinforcement is based on the hedonistic principle which envisages that an individual tends to repeat the pleasant experiences and avoid unpleasant ones. Reinforcement, therefore, constitutes one of the essential conditions of learning.

REINFORCERS

The stimuli that provide or contribute to the pleasant experiences are called positive reinforcers, while the stimuli providing unpleasant experiences are termed as negativesreinforcers. By and large, positive reinforcers are used or strengthening the responses or behaviours of individuals and negative reinforcers for weakening or eliminating the undesirable responses or behaviours.

Reinforcers can be used verbally as well as non-verbally. Following the media through which reinforcers can be given, we can classify them as follows :-

a) Positive verbal reinforcers in the form of praise words like good, yes, right, excellent.

b) Positive non-verbal reinforcers in the form of gestures expressing pleasant feelings like smile, nod.

c) Negative verbal reinforcers in the form of blame words like no, it is wrong, nonsense.

d) Negative non-verbal reinforcers in the form of gestures conveying unpleasant feelings like frowning, shaking head.

e) Extra verbal reinforcers which are neither verbal nor non-verbal. The reinforcers such as hm-hm, 'uh-uh', 'aaah', 'Um-um' fall in this category. These are known as extra-verbal reinforcers which are somewhere between verbal and non verbal reinforcers. Thus, the five categories of reinforcers are :-

o Positive Verbal Reinforcers

o Positive Non-verbal Reinforcers

```
 '   o  Negative Verbal Reinforcers
 '
 '   o  Negative Non-verbal Reinforcers
 '
 '   o  Extra Verbal Reinforcers
```

While teaching, a teacher encounters a variety of pupil

behaviours. Obviously, he would like the pupils desirable behaviours

and criterion responses to be retained and undesirable behaviours

to be eliminated. For reinforcing pupils' desirable behaviours and

criterion responses, he uses positive verbal and non-verbal rein -

forcers. These reinforcers not only strengthen the pupil's desir-able

behaviours, but also develop confidence in them. Besides, they

enhance their positive self-concept. Absence of positive reinforcers

for pupils' desirable behaviours may erode their confidence and

lead to poor self image. Positive reinforcement encourages pupils

to participate actively in classroom transactions. It stimulates

them to achieve more, thereby, creating a sense of achievement.

Skillful management of reinforcers help a teacher to promote

pupils' learning. The skill of reinforcement refers to the effective

use of reinforcers. It can, therefore, be defined as "the

effective use of reinforcers to modify students' behaviour in the

desired directions.

SKILL COMPONENTS

In order to learn the effective use of the skill of reinforce-

ment, it is desirable to specify its component behaviours. For this

pupose, the five types of reinforcers pointed out earlier are discussed

in a little more detail.

Positive Verbal reinforcers

Positive verbal reinforcers can be further divided into two broad categories. The first category includes the use of praise words, such as 'good', 'very good, 'excellent', fantastic', 'splendid', 'right', 'yes', 'correct', 'fine', 'continue', 'go ahead'. The second category of positive verbal reinforcers refer to teacher's verbal behaviour other than the use of praise words. The statements accepting pupils feelings, repeating and rephrasing pupil responses fall in this category. The teaching episode given below indicates the use of positive verbal reinforcers.

Teacher – How are the forests helpful to us?
Pupil – They are helpful in conserving soil.
Teacher – Good (positive verbal reinforcer).
How are they helpful in conserving soil?
Pupil – The roots of the trees hold the soil together.
Teacher – Very good (positive verbal reinforcer).
Trees hold the soil together (Teacher repeats pupil's response).
How else are the forests helpful in conserving soil?
Pupil – The trees check the speed of wind and the flow of water.
Teacher – Excellent (positive verbal reinforcer).
Thus trees are very useful in conserving soil as they hold the soil together and check the speed of wind and the flow of water (Teacher summarises pupil's ideas).

Positive non-verbal reinforcers:

Positive non-verbal reinforcers can also be divided into two categories. The first category includes teacher's gestures conveying pleasant feelings or approval of pupils' responses. Smiling, nodding of head, a delighted laugh, clapping, keeping eyes on the responding pupil, friendly eye contact, giving ear to the pupil indicating that attention is being paid to him fall into this category. The second category includes teacher's proximity to the pupil, contact with the pupil by way of patting, writing pupils' responses on the blackboard.

Non-verbal positive reinforcement is a discreet way of rewarding shy pupils who get embarrassed by public positive verbal reinforcement. A teaching episode using positive non-verbal reinforcers is given in the box.

Teacher – What are the different states of matter?
Pupil – Solid, liquid and gas.
Teacher – (nods when the pupil was responding)
If you put a piece of ice in a container, what would happen to the piece of ice after sometime?
Pupil – The ice in the container would melt and turn into water.
Teacher – (Goes nearer to the pupil when he was responding, listens to him carefully).
What would happen if you put this container on a stove and heat it?

```
┌──────────────────────────────────────────────────────────────┐
│ Pupil    _ After sometime, the water in the container would start │
│                                                                │
│          turning into steam.                                   │
│                                                                │
│ Teacher  _ Goes near the pupil while he was answering and pats him │
│                                                                │
│          on the back.                                          │
└──────────────────────────────────────────────────────────────┘
```

Extra   _ Verbal reinforcers

Besides positive verbal and non-verbal reinforcers, extra verbal reinforcers such as 'hm -hm', 'uh - uh', or Aanaah can be used to reinforce the desirable behaviour of pupils in the classroom. These extraverbal reinforcers are almost used in conjunction with non-verbal positive reinforcers.

Negative verbal reinforcers

Teacher's behaviours corresponding to negative verbal reinforcers can be classified as the use of blame or discouraging words like 'wrong', 'incorrect', 'stop it', 'you don't know even this', fall in this category. Teacher statements, such as ' I do not like what you are doing', 'do not do like this', 'that is not good' are also covered under this category.

Negative non-verbal reinforcers

Sometimes, a teacher makes use of the non-verbal expressions to indicate his disapproval of pupils' inappropriate behaviour or incorrect response to his question(s). These non-verbal negative reinforcers can be frowning, raising the eyebrows, hard and disappro stares, tapping food impatiently and walking around.

The teaching episode given below illustrates the use of negati verbal and non-verbal reinforcers.

'Teacher _ What are the factors which determine the standard of

living of an individual?

'Pupil   - I do not know.
   1

'Teacher _ That's had (negative verbal reinforcers) I taught

this lesson a fortnight back. Even then you do·

no know it. (the teacher asks another student to give

the answer).

'Pupil₂ _ Income and spending habits of an individual determine his

standard of living.

'Teacher _ Any other factor.

'Pupil2 - No response.

'Teacher _ Frowns (negative non-verbal reinforcers) - You too have

not learnt the lesson properly. This is not good (negative

verbal reinforcer) I cant tolerate it (negative verbal re-

inforcer).

SKILL COMPONENTS

You may recall that we have defined the skill of reinforcement as

the effective use of reinforcers for modifying pupils' behaviour in positive

ways. We have also discussed positive and negative reinforcers. From

this discussion ensues the set of component behaviours of the skill of

reinforcement.

The component behaviours are·

o	Use of praise words 'hm-hm',
o	Repeating and rephrasing pupil responses
o	Use of positive non-verbal reinforcers(including
	extra-verbal cues like 'hm-hm 'Uh-uh,
o	Writing pupils' answers on the Black Board.
o	Use of Blame words
o	Use of negative non-verbal reinforcers.
o	Inappropriate use of reinforcers.

The first four component teaching behaviours comprising the skill
of reinforcement are desirable ones. As such, the frequency of their
use is to be increased. The use of the last two component behaviours
are to be avoided as far as possible. In most of the cases, negative re-
inforcement affects pupils' learning adversely. It withdraws the from class-
room participation. Moreover, whatever effectiveness(if they have any)
is momentary. Pupils relapse into original behaviour after punitive
threat in the form of negative reinforcement is withdrawn.

TRY YOURSELF

You have learnt about the specific component teaching behaviours
of the skill of reinforcement. Read the lesson given below and identify
the components of the skill used in the teaching behaviour. Write the
components against the teacher behaviour in the space provided for the
purpose.

Concept..........Factors of Production

Class............IX

Teacher — What are the factors that contribute to production?

Pupil — Land

Teacher — Yes $\boxed{1}$ --------------- Any other factor?

Pupil — Water, air, light and heat.

Teacher — Teacher nods while the pupil was responding

$\boxed{2}$ ------------------.

After pupil's response, he says-very good

$\boxed{3}$ -----------------------Land, water, air,

light and heat so; natural resources are

important factors of production $\boxed{4}$ ----------

But can we have production with the help of

natural resources only?

Pupil — No, Sir,

Teacher— Yes $\boxed{5}$ ----------------What are other factors

production then?

Pupil — Labour

Teacher— That is right ' $\boxed{6}$ ' --------------------

Do we need skilled or unskilled labour for

production?

Pupil — Production can be more with the help of skilled

labour. So, we need skilled labour.

Teacher— Goes nearer to the responding pupil ' $\boxed{7}$ ' ---------

says very good after the response (' $\boxed{8}$ ' ----------)

and also pats him ' $\boxed{9}$ ' ------------------o on his

back. We, therefore, need skilled manpower for more

production. ' $\boxed{10}$ '

No doubt that natural resources and the skilled manpower

GUIDELINES

The skill alongwith its components was presented to you
You must have learnt about the skill and the use of its
different components. This presentation was specially
meant for training purposes. You will be eager to know
about when, why and how to use this skill in the actual
teaching situation, since this is the ultimate objective
of this training exercise. Some guidelines emerging from
the study of literature on the use of reinforcement in
teaching are presented in this section.

All the pupils in a classroom do not need sustained
praise and help. A pupil who is a high achiever may not
need positive reinforcement for each success. On the other
hand, a pupil who is a low achiever may need considerable
help and praise particularly during the early stages of
a new learning task.

Younger pupils require more praise than older ones.
The former are more sensitive to the absence or withdrawal
of it.

Reinforcers gradually lose their effectiveness if
used too frequently. A teacher who is very generous in
making use of words of praise will soon find that his words
have lost their rewarding properties. It is, therefore,
desirable that a teacher should use them only when he is
genuinely satisfied with the appropriate behaviour or

response of the pupil.

The effectiveness of the reinforcers also depends upon its proper timing in relation to the occurrence of the response. Reinforcement must be presented immediately after the pupil's response so that it may be seen as a consequence of the response. Immediate reinforcement influences the behaviour to a great extent. Delayed reinforcement has a weakened effect on the behaviour it purports to influence.

Very frequently teachers ignore pupil's desirable behaviours which they are required to encourage and rather pay attention when he is causing difficulty. Attention from the teacher for inappropriate behaviour of the pupil reinforces pupil's inappropriate behaviour. Teachers, in such cases, should attend to the child when he is making improvement in his behaviour and ignore him when his behaviour is inappropriate.

It has generally been observed that teachers use very limited reinforcing words or statements such as Okay, yes, good, very good, that is good, this is nice etc. Besides, these reinforcers are used inappropriately without weighing the quality of the response made by the pupil(s). It is stressed that a teacher should use a wide range of reinforced words/statements. These should be based on the quality of the response given by the pupil.

Another important points which deserves due consi- deration is whether the reinforcement should be continuous or intermittent. When reinforcement is provided every time a pupil gives a correct response, it is called continuous reinforcement. When reinforcement is provided for some responses only and not for all, it is called intermittent reinforcement. As regards the use of these two types of reinforcements, it is suggested that in the beginning, appropriate behaviour needs to be reinforced over and over until it becomes a habit of the pupil.

The guidelines outlined above are some of the general principles which can be helpful to a teacher in the use of the skill of reinforcement. As a matter of fact, the teacher himself is the high judge to choose appropriate moments and settings for making use of the specific reinforcers during his teaching.

1. -Praise word (Positive verbal reinforcer)
2. -Positive Non-verbal reinforcer.
3. -Praise word (verbal positive reinforcer)
4. -Repeating and rephrasing pupil response.
5. Praise word (Positive verbal reinforcer)
6. - Praise words (Positive verbal reinforcers)
7. - Positive Non-verbal reinforcer
8. - Praise word (Positive verbal reinforcer)
9. - Positive Non-verbal reinforcer.

10   - Repeating and rephrasing statements.

11.   - Positive Non-verbal reinforcers.

12.   - Praise words (Positive verbal reinforcer)

13.   - Praise word (Positive verbal reinforcer)

14.   - Repeating and rephrasing statements.

15.   Non-verbal positive reinforcer.

16.   Praise words (Positive verbal reinforcer)

OBSERVATION TOOL

The microteacher................Class.......................

Concept   ....Time............. ....

Duration   ....Session Teach/Reteach.....

Date   ....Supervisor...............

INSTRUCTIONS

The observation schedule cum rating scale for the skill of reinforcement comprises three main columns. The first column indicates the tallies against different components of the skill. The second column specifies the components of the skill and the third column contains rating from one to seven against each of the components. The rating scale indicates the adequacy of the occurrence

of the component

The points on the scale indicate the following.

1. Poor

2. Not satisfactory

3. Nearly satisfactory

4. Satisfactory

5. Fairly satisfactory

6. Very satisfactory

7. Excellent.

Tallies	Components	Rating						
	i) Use of <u>praise words</u>	1	2	3	4	5	6	7
	ii) <u>Repeating</u> and <u>rephrasing</u> pupil responses	1	2	3	4	5	6	7
	iii) Use of <u>Positive non-verbal</u> reinforcers (including extra-verbal cues)but excluding writing pupil answers on the blackboard.	1	2	3	4	5	6	7
	iv) <u>Writing pupils'</u> answers on the black board	1	2	3	4	5	6	7
	v) Use of <u>blame words</u>	1	2	3	4	5	6	7
	vi) Use of <u>negative non-verbal</u> reinforcers	1	2	3	4	5	6	7
	vii) Inappropriate use of <u>reinforcement.</u>							

Inappropriate use of reinforcement.

THE SKILL OF MANAGEMENT OF PUPIL RESPONSES

OBJECTIVES

The strategy of asking questions is directed to elicit responses from the pupils. Each question is followed by a variety of pupil response ranging from no response to completely correct response depending upon the nature of questions and the developmental level of the pupils. The teacher, as a leader in the classroom, is endowed with the responsibility of managing these responses in such a manner that it promotes pupils' learning. The present unit is directed to this end., It helps you to understand the nature of pupil responses and the procedures available to manage them. After going through this unit, you should be able to realise the objectives given in the box.

---

*Know the different types of pupil responses to questions.

* Know the various ways to manage pupil responses.

* Given pupil responses in a teaching sequence, suggest appropriate management procedure(s).

MEANING OF THE SKILL

When a question is put in a classroom, there are a number of possible pupil response situations such as no response, wrong response, partially correct response, incomplete response or correct response. Let's consider these situations one by one.

No Response Situation: No response situation refers to the failure on the part of the pupil to frame and express varbally a response to the question that he is required to answer. The opportunity to respond is the essential condition to identify a no response situation. Special reference to opportunity for responding has been mentioned, because it is observed that teachers tend to think a no response occurrence even without providing opportunity to the pupils. They put a question before the class, pause for a few seconds and taking the silence in the class as an indication of no response, start explaining, repeating or restructuring the question. This is an unhealthy practice and should be avoided. Only after a designated pupil fails to answer, we may infer a no response situation.

No response on the part of the pupil may be due to his inability to understand the question, to structure response, or due to the lack of required facts, concepts, generalizations required for the purpose of responding or the failure to recall the related facts.

Wrong Response Situation: Incorrectness of the pupil response is to be considered in the context of the specific levels of classroom questions. A wrong response to a lower order question indicates the lack of knowledge of facts, concepts, and generalizations on the part of the pupil. Wrong response

to middle order and higher order questions either indicates
the incorrectness of pupil's knowledge of facts or concepts
that are to be manipulated to structure the response, or
a lack of understanding of the ways and means to structure
a correct response.

Partially Correct Response Situation: Partially correct
responses represent the responses, parts of which, are
similar to the criterion or correct response. They
represent a partial knowledge of facts, concepts, generaliza-
tions on the part of the pupil. In some situations, this
may also occur due to pupil's inattention in the classroom
or due to guessing the responses.

Incomplete Response Situation: Whenever a no response
situation occurs, we infer that either the pupil is not
having the facts in his memory or there is an inability to
understand and structure a response to the question.
Incomplete response or the failure to recall all the facts
may be due to several reasons. There may be a lack of
understanding of the question. He knows the facts,
concepts and generalizations to be used in arriving at
complete response, but due to his inability to structure
his response properly he fails to give complete response.
Teacher's or other pupil's interference also contributes
to this type of response. Mostly, incomplete responses are

obtained for middle order and higher order questions. An incomplete response to a lower order question indicates pupil's lack of knowledge of facts, concepts or generalizations. <u>Correct Response Situation</u>: Correct response refers to the statements expressed by the pupil which completely satisfy the criterion response. Most of the correct responses are received for lower order memory questions. For the middle order questions also, there is a possibility of correct response. Higher order synthesis questions do not provide for absolutely correct responses. There are more than one correct response for such questions. Even then, the complete correctness of the response is judged in the light of the criterion response expected by the teacher.

The pupil response situations emerging from the above discussion can be listed as:

```
1.  No response situation.

2.  Wrong response situation.

3.  Partially correct response situation.

4.  Incomplete response situation.

5.  Correct response situation.
```

You have studied the various pupil response situations. Earlier, in the overview, it was pointed out that pupil responses need to be managed in such a manner that it promotes

pupils' learning. This can be done in two ways, namely, by
providing to the pupils the knowledge about the correctness
of his response and/or by leading the pupils to correct
responses. The former has been covered in the skill of
reinforcement while the latter is covered in the present
skill. The sets of teacher behaviours directed at this
objective comprise the skill of response management.
The specific sets of behaviours will be outlined in the
ensuing section on skill components.

SKILL COMPONENTS

The skill of managing pupil responses is comprised
of component behaviours like prompting, seeking further
information, refocusing, and increasing critical awareness

These components are discussed in this section.

Prompting: In technical language, prompting means presenting
a stimulus to the terminus stimulus to make the correct
response more likely when student is learning (Good,1959).
In other words, it is a hint or cue which helps the pupil
to arrive at the correct (criterion) response. For
our purpose, prompting refers to providing hints or cues
to the pupil in a bid to lead him from no response or wrong
response situation to the correct (criterion) response
situation. While using this technique, the teacher himself
does not provide the answer to the question asked in the
classroom, but guides the pupil through carefully provided
hints to arrive at the desired response.

Sometimes, the no response or incorrect response situation can occur due to defective question rather than lack of knowledge or response structuring ability of the pupils. This can happen in the case of higher order questions. Whenever the teacher/in doubt about the clarity of question, he may rephrase the question before prompting.

The prompt to be effective needs to be based on the previous experience of the learners. The prompt serves as an association and leads the pupil to the desired response. Sometimes, the wrong response or no response situation may be due to inability of the pupil to manipulate the relevant facts, concepts or principles to arrive at the criterion response, this type of handicap or logical inconsistency can be managed through prompts pointing to the logical inconsistency or building response through step by step structuring. Thus, selection of specific prompts in a particular situation is done by the teacher keeping in view the experience of his pupils, logical consistency of the response, and the criterion response.

Prompting influences the pupil in a number of ways. Firstly, it promotes pupil's learning to a large extent. Answer to a question given by the teacher himself may not be retained by the pupil for a longer period. But if a teacher is able to get the expected response from a pupil by providing

him prompt(s), there is a likelihood of its retention for a
longer period. Secondly, the pupil experiences a sense of
emotional security through considerate and encouraging stimuli
in the form of prompts. Thirdly, prompting stimulates pupils'
thinking as they are made to think for structuring the response
on the basis of the prompt(s). Fourthly, prompts build pupils'
self-image as they are able to give the expected response after
a prompt. Fifthly, prompting gives pupils a sense of participa-
tion and achievement which plays an important role in their
learning. A judicious use of prompting in classroom is, there-
fore, highly desirable due to its healthy effects on pupil
participation in the teaching-learning activities. Below is
given an example of the use of prompting in a typical situation.

EPOSIDE

Teacher	-	How will the climate be affected if sun disappears from the solar system?
Pupil	-	No response
Teacher	-	Has it anything to do with day and night? (prompt)
Pupil	-	There will be no day and night.
Teacher	-	Very good. How will the temperature be affected? (prompt)
Pupil	-	The temperature on the earth will decrease. This will lead to heavy snow fall.....and...

Seeking Further Information: This technique can be used when the pupil's initial response is either incomplete or partially correct i.e. to deal with incomplete response situation' and 'partially correct response situation'. Seeking further information consists of eliciting additional information from the responding pupil to bring the initial response to the expected response level. 'What else' type of questions seek further information from pupils.

When a teacher feels that the pupil's answer to his question has been there as a result of guessing, he should ask the pupil to give reasons for his answer or state his answer in other words. In such a situation, if the pupil's answer is based upon guessing, he will not be able to give the reasons or restate the answer in his words. Below is given a teaching episode which illustrates the use of this component of the skill. In this episode, teacher seeks additional information from the responding pupil.

Teacher —	What are the conditions necessary for the success of democracy?
Pupil —	The first condition is that the people should have a continuing interest in public affairs and a sense of public responsibility. The second condition is that the citizens should be conscious

```
of their rights and of their duties as well.

The third condition is that the government

should not only be responsible to the people,

but it should also have their mandate periodically

renewed.
Teacher - Is there any other condition?
          (Seeking further information)
Pupil -   Yes, poverty of the people is not conducive to

          the successful working of democracy.  The removal

          of socio-economic inequality would facilitate the

          successful working of a democrative government.
```

Refocusing

This technique is used to deal with 'correct response
situation'. When a pupil's response to a teacher's question
happens to be completely correct, the teacher is satisfied.
In such a situation, normally there is no need to put any more
question. But sometimes a skil-ful teacher wants to strengthen
the response given by the pupil. For this, he refocuses pupil's
response and wants the pupil(s) to relate it with something
already learnt in the class or requires the pupil consider the
implications of the given response in more complex and novel
situations. Besides, questions requiring the pupil to identify

the similarities or dissimilarities of the given response with
or
the related facts/issues not only strengthens the given response

but also stimulate thinking on the part of the responding pupil.
a
Below is given/teaching episode which illustrates the use of

Refocusing Technique.

```
'Teacher - Do gases dissolve in water?

'Pupil  -  Yes, gases dissolve in water

'Teacher - Can you name any gas which illustrates that gases
             dissolve in water? (Refocusing)

'Pupil  -  When we open a bottle of aerated water (soda water),
             gas dissolved in the water comes out immediately
             in the form of bubbles.
```

Increasing critical awareness:

This technique is also used to deal with 'Correct
response situation'. After the pupil has given the correct
response i.e. the criterion response, this technique can be used
to increase critical awareness in the pupils. This involves
asking 'why' and 'how' of the correct response. By asking
'why' and 'how' of the correct response, the teacher asks from
the responding pupil the justification/rationale for his correct
response as to 'How' and 'Why' is his response correct. Thus, asking
'why' and 'how' of a completely correct response increases their
critical awareness. Below is given a teaching episode which

illustrates the use of this technique for increasing critical
awareness among pupils.

Teacher - A person wants to get down from a boat and jumps
suddenly. To which direction will the boat move
while the person moves forward?

Pupil - The boat will move in the backward direction.

Teacher - Why does the boat go backward, when the boy
jumps out of it? (Increasing critical awareness)

Pupil - While jumping, the foot of the boy exerts a force
on the boat. At the same time, a force is exerted
by the boat on the foot of the boy which makes
him move forward and the boat moves backward.

You have been using the said procedures of pupil
response management. Here we have only pinpointed them and
tried to relate various response situations with management
procedures. Those various management procedures can be
summarised as:-

Procedures for pupil response management

- Prompting

- Seeking further information

- Refocusing

- Increasing critical awareness

TRY ON YOUR OWN

I.   In this unit, you have studied various kinds of pupil respon-
ses
and the ways to manage them. The following exercises are based
on this unit. Write your answers in the space provided for the
purpose.

1.   What is the appropriate managing procedure for no
      response situation?

      _____

      _____

      _____

2.   What is the appropriate managing procedure for wrong
      response situation?

      _____

      _____

      _____

3.   What are the various possible managing procedures
      suitable to deal incomplete response situation?

      _____

      _____

      _____

4.   What are the various managing procedures suitable to
      deal with correct response situation?

      _____

      _____

      _____

5. What are the various managing procedures Suitable
   to deal with correct response situation?

   _____

   _____

   _____

   _____

II.   You have learnt about the specific components of the

skill of management of pupil responses. Read the lesson

given below and identify the procedures of response management

used by the microteacher and write them against the teacher

behaviour in the space provided for the purpose.

Micro Lesson Plan

Concept.....:.........................Factors determining the
                                       supply of labour.

Class..............................XII

Teacher..............................What are the factors that
                                     determine the supply of
                                     labour in a country?

Ramesh   —   Birth and death rates, social
                                     traditions, emigration and
                                     immigration and wage level
                                     determine the supply of labour
                                     in a country.

Teacher   —   Any other factor?

Ramesh   — .   I do not know.

Teacher   —   Who fixes the age of entry
                                     into Govt. offices and factories?

Ramesh   —   Government

Teacher	—	Who fixes the age of retirement?
Ramesh	—	Government [3]
Teacher	—	Who fixes the working hours in factories and offices?
Ramesh	—	Government [4]
Teacher	—	Do the Government regulations regarding age of entry to service, retirement age, working hours in factories and offices influence labour supply in a country? [5]
Ramesh	—	These regulations definitely affect the supply of labour in a country.
Teacher	—	How the birth and death rates determine the supply of labour in a country? [6]
Ramesh	—	High birth rate and declining death rate means high growth rate of population. More the population, more/the supply of /is labour.
Teacher	—	Which are the countries in the world_____which are having huge population and, therefore, have vast labour supply? [7]
Ramesh	—	India and China.
Teacher	—	Which are the countries which are having short supply of labour? [8]

Ramesh   -   U.K. and U.S.A.

Teacher   -   Since labour supply also depends
                           upon emigration and immigration.
                           Tell any country where labour supply
                           is on the increase on account of
                           Immigration.

```
 _____
|                           |
|             9             |
|_____|
```

Ramesh   -   Labour supply in U.K. is on an
                           increase because of influx of   .sians.

Teacher   -   Why are Asians are emigrating to U.K.?

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 _____
|                           |
|             10            |
|_____|
```

Ramesh   -   Because of unemployment and under-
                           employment in their own countries,
                           they are emigrating to U.K.

Teacher   -   Has the U.K. Government placed any
                           restriction on immigration?

```
 _____
|                           |
|             11            |
|_____|
```

Ramesh   -   Yes.

Teacher   -   Why has U.K. Government imposed
                           certain restrictions to check immi-
                           gration in their countries?

```
 _____
|                           |
|             12            |
|_____|
```

Ramesh   -   Because immigrates affect the supply of
                           labour in U.K. and, therefore, may
                           affect adversely the employment
                           opportunities for their own countrymen.

Teacher	-	Does the country from where people emigrate to other countries get benefitted by such emigration of men and women.

```
┌─────────────────────────────────┐
│              13                 │
└─────────────────────────────────┘
```

Ramesh	-	Yes, it checks the supply of labour.
Teacher	-	Any other benefit?

```
┌─────────────────────────────────┐
│              14                 │
└─────────────────────────────────┘
```

Ramesh	-	No response.
Teacher	-	Do these people send money to their dependents in their home country?

```
┌─────────────────────────────────┐
│              15                 │
└─────────────────────────────────┘
```

Ramesh	-	Yes.
Teacher	-	In what currency do they send their money to their dependents?

```
┌─────────────────────────────────┐
│              16                 │
└─────────────────────────────────┘
```

Ramesh	-	Usually in dollar or pound.
Teacher	-	How does the remittance of money in form of dollars or pounds benefit their home country?

```
┌─────────────────────┐
│        17          │
└─────────────────────┘
```

Ramesh	-	Sending money in dollars or pounds improves the foreign exchange resources of /the home country.

GUIDE LINES

You have learnt about the skill and the use of
its different components. This presentation was
specially meant for training purposes. You will be
eager to know as to how to make an effective use of
this skill and its different components in the actual
teaching situation. Since this is the ultimate
objective of this training exercise, some guiding
principles/guidelines for an effective use of the
skill are outlined below:

i)   When a pupil's response to a teacher question
       happens to be either completely incorrect
       or partially correct or no response at all,
       the teacher should provide the prompt to
       the same pupil till the latter arrives at
       the criterion response.

ii)   The prompting technique may not be/useful
       when the expected response contains some
       factual information not learnt by the pupils
       earlier.

iii)   The prompting technique may not be useful
       when the time with the teacher is very
       short.

iv) The prompting technique may be more useful in certain subjects where knowledge is more structured and relatively less useful in other subjects with less structured knowledge.

v) Refocusing and increasing critical awareness techniques may also not be useful when the time with the teacher is very limited and he wants to cover the topic in a very limited time.

PLAN A SKILL LESSON

Select a concept from the subject you teach. Prepare a five minute micro-lesson showing the use of different response management procedures against the response situations.

CHECK YOUR ANSWERS

for the exercise under try yourself

KEY

1. Seeking further information.

2. Prompting

3. Prompting

4. Seeking further information

5.   - do -

6. Refocusing Increasing critical awareness

7. Refocusing

8. Refocusing

9. Seeking further information

10. Increasing critical awareness

11. Seeking further information

12. Increasing critical awareness

13.   - do -

14. Seeking further information

15. Prompting

16. Seeking further information

17. Increasing critical awareness

OBSERVATION TOOL

Name of the student teacher................Class.........

Concept...........................Duration...............

Supervisor....................Sesstion.........Tech/Reteach

Date............................

INSTRUCTIONS

The observation schedule cum rating scale for the skill of management of pupil responses comprises four columns. The first column indicates tallies against different components of the skill. The second column specifies the components of the skill and the third indicates rating from one to seven against each of the components. The rating scale indicates mastery of the different components of the skill. The fourth column is meant for remarks. The observer may give the remarks when there was any instance of wrong use of any procedure of management of pupil response or there was any occasion when there was a need to use any component of the skill but the student teacher failed to use that component. The points on the rating scale indicate the following -

1. Poor   2. Not satisfactory

3. Nearly   4. Satisfactory
    satisfactory
5. Fairly   6. Very satisfactory
    satisfactory

7. Excellent

Tallies	Components	Rating	Remarks
	Prompting	1 2 3 4 5 6 7	
	Seeking further information	1 2 3 4 5 6 7	
	Refocusing	1 2 3 4 5 6 7	
	Increasing critical awareness	1 2 3 4 5 6 7	

SKILL OF EXPLAINING

OBJECTIVES:

This unit is concerned with aspects of explaining.
It presents the meaning and definition of the skill,
specifies teaching behaviours comprising the skill, out-
lines guidelines for the use of the skill; and provides
observation tool schedule for providing feedback to the
trainee practising the skill for attaining mastery.
Having read it, you are expected to realise the following
objectives:-

*Know the meaning and definition of
the skill of explaining.

*Know the components of the skill
of explaining

*Understand the observation tools

*Acquire capacity to develop a
microlesson plan on the skill of
explaining.

MEANING AND DEFINITION OF THE SKILL

A pupil is required to learn a number of concepts, phenomena, generalisation, procedures, functions and reasons for certain occurences. He is to learn about their attributes, constituent elements, relationships and applications. A teacher organises a number of learning experiences in the classroom towards this end. He uses a number of inter-related statements related to the concepts, phenomena, generalisations and functions with a view to developing in pupils an understanding about them. The set of inter-related statements used for this purpose is termed as explanation and the process is termed as explaining. The term explaining can, therefore, be defined as the use of inter-related statements about a concept, phenomenon, generalisation with a view to providing an understanding to some one else.

An explanation to be understood by pupils, the explainer has to keep in mind the previous knowledge of the pupils. The previous knowledge refers to the knowledge already possessed by

pupils. Since previous knowledge of the pupils of
different grades, cultural back-ground and
geographical regions is always different, an
explanation about a concept which is appropriate for
one group of pupils may not be appropriate for other
group of pupils. The quality of an explanation,
however, depends on the degree of understanding
it generates in the explanees.

TYPES OF EXPLANATION:

There are mainly three types of explanation -
the descriptive, the interpretative and the reason
giving. The approximate to the questions. 'How'
'What' and 'Why'?

A descriptive explanation describes the
process, structure or procedure of a phenomenon,
generalisation or principle. For instance, the
concepts such as, 'How does a hand pump work?',
'How is Hydrogen gas prepared?', require descriptive
explanations on the part of the teacher.
An interpretative explanation specifies the
central meaning of the concept, generalisation or
the phenomenon.

A reason giving ' explanation specifies the reasons for an occurrence of a phenomenon, event, or the basis of a principle etc. For instance when a teacher is to explain the phenomenon such as 'Why are earth quakes caused', his explanation would termed as 'reason giving' explanation. There are three types of explanations. But this does not mean that for explaining an concept, generalisation etc., only one type of explanation will be needed. In the explanation of particular concept, all the three types of explanation may be required.

SKILL COMPONENTS:

A good explanation is one which is understood by the pupils. A teacher should always endeavour to explain the concepts, generalisation or rules in such a way that they are understood by pupils completely. You would be interested to know as to what are the behaviours on the part of the teachers which make an explanation good and worth while and what are the undesirable behaviours which a teacher should avoid.

The skill of explaining thus involves increasing
the occurrence of desirable behaviours and avoiding the
use of undesirable behaviours. These teacher behaviours
are discussed in this section.

Desirable behaviours

The desirable behaviours making an explanation clear
are -

appropriate beginning and concluding statements,

using explaining links and covering essential points.

Using beginning and concluding statements.

Before explaining a concept or a generalisation a teacher
should make opening statements announcing what is to be
explained. ' This prepares the pupils for receiving the expla-
nation. He becomes objective oriented and attentive.
Similarly, after the explanation concluding statements may
be made. This helps in structuring the ideas explained into
the whole. This can be done through summarisation. These
beginning and concluding statements do not form a part of the
act of explaining, but they are very important from the view
point of cognitive structuring. They help in pupils' under-
standing of the subject of explanation.

Given below is a teaching episode which illustrates
the use of beginnning and concluding statements by a teacher
who is teaching the phenomenon seffusion of gases'to IX grade
students.

<u>Teacher</u>   We shall study about the deffusion of gases
(beginning statement). All gases are completely mixable
with each other. We know from one experience that when a
bottle of a scent is kept opened in one corner of a room,
the smell of the scent spreads throughout the room. This
arises from inter mixing of the molecules of the vapours
of the scent with the molecules of the constituents of air.
Inter mixing of gases is spontaneous. This phenomenon is
termed as deffusion of gases (concluding statement).

In the above teaching episode there is one beginning
statement and one concluding statement. But this does not
mean that there can only be one beginning and concluding
statement. When an explanative is lengthy, there can be more
than one beginning statement. These statements give the overa
structure of the explanation. Similarly, there can be more
than one concluding statement. They summarise the major
points covered in the explanation. In other words, the number
of beginning and concluding statements will depend upon the
points covered in the explanation and the length of explanatic

Using Explaining Links

Explaining links are the words and phrases which
make an explanation clearer by bringing continuity in the
statements used. A teacher should, therefore, use as many
explaining links as possible in order to make his explanatic
clear.

Some of the explaining links used by teachers are given below:-

- on the other hand   - such that   - in spite of
- as a result of   - hence   -hereafter
- consequently   - in order to   - before
- therefore   - the main purpose - hereto fore
- thereafter   - because   - so that
- due to   - since   - the cause of
- that is why   - why   - thus
- this is how   - but

Given below are two teaching episodes which illustrate.
the use of explaining links. The explaining links have been
under lined;

Example -I.

Teacher - It is estimated that atmosphere alone contains
4000 billion tonnes of nitrogen. Only a small amount of its
is in the combined state while largely it is in free state.
On the other hand, all living organisers contain compounds
is called combined or fixed nitrogen. Any process that con-
verts free nitrogen into nitrogen compounds is called
fixation of nitrogen such processes are important since the
presence of nitrogen compounds in the soil helps in the growth
of plants.

Example -2.

Teacher - The most potent institution which, inspite of
its extremely negative role, continues to exert tremendous

influence on social life in India is the caste system.
While originally rooted in Hinduism, it has brought
other relegious groups - the Muslims, Sikhs and Christians
under its influence. It is said that as a result of
conversion, a person may lose his relegion in India; but
he never loses his caste.

Covering essential points

The concepts have a set of attributes and non-
attributes. The generalisations have a set of interrelated
concepts. A phenomenon has defined constitutent elements
to ensure that pupils learn the concepts, p-henomena,
generalisations, process, the explanation should cover all
the essential points that makes an explanation complete.
The completeness of explanation is determined by the scope
of the concept or generalisation as specified in the
instructional objectives.

Undesirable behaviours

The undesirable behaviours using irrelevant statements,
lacking influency, lacking continuity in statements, making
use of inappropriate vocabulary , vague words and phrases
make an explanation vague. A teacher should avoid the use
of these undesirable behaviours. Each of these undesirable
behaviours is described below:

Using Irrelevant statements

An explanation is effective when all the statements
made by the teacher are related to the concepts being
explained by him. A statement unrelated to the concept
hinders pupils' understanding of it. Irrelevant statements

explained. They may even confuse the pupils sometimes. It is, therefore, very essential that a teacher should be very careful in not making a statement which is not related to the concept being explained by him.

Given below is a teaching episode which illustrates that teachers' sometime make irrelevant statements. The irrelevant statements are underlined.

Example

The right to vote is a privilege which man has acquired after a long period of struggle in different countries. Until the end of eighteenth century, the right to vote was restricted to holders of property and possession of educational or other attainments. <u>What a shameful thing it was? I do not like it</u>. The spread of liberal ideas and democracy in Great Britain during the nineteenth century was accompanied by gradual extension of the right to vote, although it was during this century that Great Britain could claim to have

Lacking Fluency

Fluency in the context of explaining refers to the flow of uninterrupted statements in respect of the concepts, phenomena being explained. The fluency emanates from teachers' mastery over the content and mastery over the language through the medium of which it is communicated.

Uninterrupted flow is desirable for continuity of
explanation. Uncalled for interruptions in the flow
of explanation due to fumbling for appropriate words
or statements, phrases etc. hinders pupils understanding
of the concept.

Given below is a teaching episode which illustrates
as to how a teacher sometimes fumbles for appropriate
ideas, words or pharases etc.

The teacher is explaining to pupils of IX grade
as to how the body uses food for getting energy.
Teacher - Food taken by the organism provides..........
the nutrients required by the body. These nutrients have
different functions. Carbohydrates, carbohydrates and
fats, carbohydrates and fats are used for obtaining energy.
Carbohydrates, no , Protein is generally used for building
up body parts. Carbohydrates like starch and sugar are
burnt to given energy. You burn fuel to get heat and light
The body 'burns' these energy rich molecules..........
to get energy. The process that helps this is called
respiration. What helps to burn the food ? Obviously
.... You already know that........ oyes.......
oxygen of the air helps to burn fuel. This oxygen is also
necessary to 'burn' the simpler food inside the body.
Carbon dioxide and water are the end products of this
process.

In this example, you notice that teacher is lacking fluency in the explanation. As a result pupils may fail to understand the concept.

Lacking Continuity in Statements

It must be clear to you by now that an explanation is a set of interrelated statements concerning a concept or a generalisation. The interrelatedness between the sentences is on the basis of logical sequence the missing link between statements in a sequence causes break in continuity of an explanation. Lack of continuity in the explanation thus makes it difficult for the pupils to understand the concept or generalisation. Given below is a teaching espisode in which the teacher explains the formation of rainbow in the sky.

Teacher - Formation of (1) rainbow is based on the dispersion of light. After (2)the rains water vapours get suspended in the air. (3) Sun rays pass through supseeded water vapours. (4) Rainbow is formed.

In the above teaching episode, the logical continuit; between statements 3 and 4 is broken because of a missing link - "These vapours in the air act as prisms ". The addition of this statement between statements 3 and 4 makes the explanation clear. Making use of in appropriate vocabulary vague words and phrases.

An explanation to be understood by pupils should contain vocabularly appropriate to their age, grade, maturity level etc. Use of vocabulary not known to pupils hinders their understanding of the phenomenon. Further, the use of certain vague words and phrases such as you see, you know, probably, perhaps, in fact, actually makes an explanation vague. A teacher should avoid the use of such words which makes an explanation vague and hinders its understanding.

Micro-Lesson Plan for the Skill of Explaining

You have learnt the specific desirable and undesirable component teaching behaviours of the skill of explaining. A micro-lesson for the practice of this skill is given below. Different components of the skill have been given in brackets against statements, words and phrases.

Subject   ....Economics

Concept   ....Meaning of Consumption

Class XI

Teacher - We have already studied that economics is a study of man in relation to wealth i.e. economic activities of man. These economic activities may be in terms of consumption, production, exchange and distribution. We shall study today the meaning consumption. (Beginning Statement)

A man has wants and these can be satisfied by the

use of goods. For instance, when an individual is hungry,
he satisfies his hunger by taking food. He is said to have
consumed the food. Similarly (Connecting Link) a smoker
when uses a cigarett and gets satisfaction, he is said to
have consumed a cigarett. Thus (Connecting Link) the
direct use of goods and services for the satisfaction of
human wants is known as consumption.

Whenever we consume eatables. They lose their
utility. Food, water, rice, fruit and vegetables get
destroyed when these are consumed therefore (Connecting
Link) some confuse consumption as destruction of utilities.
But (Connecting Link) this is not so. Sometimes (Explaining
Link) utility of certain commodities are destroyed of their
own. For instance (Connecting Link) when any fruit decays,
it loses its utility. A house may catch fire and gets
destroyed. The decayed fruit and the burnt house have lost
their utilities. But (Connecting Link) these cannot be
said to have been consumed. Because (Connecting Link) an
act of consumption implies satisfaction of human wants. The
decayed fruit and the burnt house have not satisfied human
want while losing their utilities.

Besides (Connecting Link) goods, services are also
consumed, when a person travels in a bus and pays for the
ticket, he is consuming the transport service. A teacher's
services are consumed by the pupils when they learn from him
in the school.

In the same way, a doctor's, a lawyer's and a tax consultant's services are consumed by the needy consumers who pay fees for their service.

Consumption, therefore, (Connecting Link) stands for satisfaction of human want. A commodity which loses its utility without satisfying a human want cannot be said to have been consumed. Besides goods, services are also consumed (Concluding statements) points covered.

PLAN   A   SKILL   LESSON

Select a concept from the
subject you teach.   Prepare a five
minute microlesson showing components
of the skill of explaining against
teacher behaviours in parenthesis

O B S E R V A T I O N T O O L

Name of the Student teacher..........Class...........,

Concept.........................Duration............

Session.............Teach/Reteach Date............

Supervisor.............

INSTRUCTIONS

The observation tool for the skill of explaining comprises four columns. The first column indicates the serial number of the desirable and undesirable component behaviours of the skill. The second column specifies the components of the skill and the third one indicates the tallies against/component "covering essential points". The supervisor is to tick either of the two alternatives i.e. Yes and No given against this component at the end of the lesson. The fourth column is meant for remarks.

S.No.	Components	Tallies	Remarks
	Desirable behaviours		
1.	o Using appropriate beginning and concluding statements-	.	
2.	o Using explaining links		
3.	o Covering essential points	Yes/No	
	Undesirable behaviours		
4.	o Using irrelevant statements		
5.	o Lacking Fluency		
6.	o Lacking continuity in statements.		
7.	o Making use of inappropriate vocabulary, vague words and phrases-		

RATING SCALE

Name of the Student teacher..............Class..........

Concept................   Duration................

Session...............Teach/Reteach Date...........

Supervisor................

INSTRUCTIONS

The rating scale for the skill of explaining
comprises three columns. The first column indicated
the serial Number of the desirable and undesirable be-
haviours of the skill of explaining. The second column
specifies these component behaviours. The third one
contains rating from one to seven against each of the
components. The rating scale indicates the adequacy
and appropriate of the acquisition of the components of
the skill. The seven points on the rating scale indicate
the following. The rating may be indicated by encircling
the number which represents the observer's assessment.

1. Poor   2. Not Satisfactory

3. Nearly Satisfactory 4. Satisfactory

5. Fairly Satisfactory 6. Very Satisfactory

7. Excellent

Serial No.	Components	Rating
	Desirable behaviours	
1.	Using appropriate beginning and concluding statements.	1 2 3 '4' 5 6 7
2.	Using explaining links.	1 2 3 '4' 5 6 7
3.	Covering essential points.	1 2 3 '4' 5 6 7
	Undesirable behaviours	
	Using irrelevant statements.	1 2 3 '4' 5 6 7
	Lacking fluency	1 2 3 '4' 5 6 7
	Lacking continuity in statements.	1 2 3 '4' 5 6 7
	Making use of inappropriate vocabulary, vague words and phrases.	1 2 3 '4' 5 6 7

OBJECTIVES

//

This unit presents definition of the skill of stimulus
variation, specifies its components; highlights guidelines
for its use, and gives observation tools to be used for
providing feedback to the trainee undergoing practice for
mastering the skill. After reading the unit you
are expected to realise the objectives given in the box:

---

o   Know the meaning of the term stimulus variation.

o   Know the components of the skill of stimulus
     variation

,   Identify the components of the skill of stimulus
     variation in a given lesson.

o   Acquire competence to develop a micro lesson
     for practising the skill of stimulus variation.

o   Understand guidelines for the use of the skill
     of stimulus variation.

MEANING OF THE SKILL

Learning in the classroom depends, to a large extent, on
the attention of the pupils on the learning task. It is, there-
fore, essential for the teacher to secure and sustain pupils'

attention for making his teaching effective. Continued use
of the same stimulus or activity for longer period induces inatten-
tion. The inattention is caused in two ways. Firstly, continued
focus of the pupils on the same stumulus for a long time restricts
his postural mobility. As a result, they feel fatigued. Secondly
the continued use of the same stimulus for longer duration,
introduces the element of monotony, which brings in dullness.
The problem of inattention is further aggravated because of the
short span of pupils' attention. Their attention tends to shift
from one stimulus to another frequently. They find it difficult
to attend to one stimulus for more than a few minutes. The
problem of inattention is a challenge to the teacher. Unless he is
in a position to secure and sustain pupils attention, optimum lear-
ning cannot take place. It is, therefore, essential for the
teacher to secure and sustain pupils' attention to what he is
discussing in the classroom. How to accomplish this task during
classroom teaching is a task that confronts the teacher ?

One of the significant ways to secure and sustain pupils'
attention is to introduce the element of variation in teaching. The
variation can be introduced in several ways depending upon the
teaching activity. For example, there can be variation of teacher's
position in the classroom while he is teaching. Variation in voice
represents another dimension. Use of media provides yet another

area of variation. Finally, there can also be v riation in the
classroom interaction pattern. Appropriate variations in these
dimensions can help a teacher to secure and sustain pupils'
attention. The set of teacher behatiours that tend to secure
and sustain pupils' attention in teaching learning situation in the
classroom constitutes   .. the skill of stimulus variation.
Following this definition, con titut what can be the component
of tne skill of stimulus variation? The component behaviours of the
skill are discussed in the section to follow.

COMPONENTS:

Movement: Teacher movement is an important teacher behaviour
in the classroom. It contributes significantly towards securing and
sustaining pupils attention. Firstly, the teachers who are in the
habit of delivering their lesson from one position for longer dura-
tion reflect their lack of alertness and enthusiasm. This also
adds to monotony in the lesson. Secondly, pupils get fatigued
due to focussing their attention on the teacher in same po. ture for
an unreasonably long duration. The movement of the teacher helps
pupils to change their postures which provides physical relaxation
to them and also contributes to the alertness, enthusiasm and
variety in the teaching behaviour.

Do all type of movement contribute to the effectiveness of the
teaching behaviours or is it some specific type of movement which
will be helpful in teaching? This is a pertinent question to consider.

Any ~type of movement is not likely to be conducive to securing pupil attention. For example, habitual movements which are a kind of mannerism behaviour of the teacher fail to attract their attention. For movements to be effective in securing and sustaining pupil attention, they have to be meaningful. Only carefully planned meaningful movements are likely to achieve the twin objectives i.e. securing and maintaining pupils' attention.

The teacher can make meaningful movements in the classroom in a number of situations. He moves to the blackboard for writing- He moves to the pupils in the classroom to guide when pupils are doing the given assignment. He sometimes moves to the pupils to listen to them. All these movements help in securing and sustaining pupil attention.

GESTURES: Use of gestures is another teacher behaviour for introducing variation in the teaching. Gestures are non-verbal cues to express feelings and emotions; to emphasise significant ideas or objects; to indicate shape, size and movements of objects etc. Gestures essentially consist of hand and head movements, eye movements, facial expressions etc.

Verbal communication is less effective in conveying feelings, emotions etc. than verbal communication combined with gestures. Gestures, thus, enhance the effectiveness of verbal communication. But as in the movements, the use of gestures will be effective only when they are properly planned. Secondly, the gestures have to be

appropriate to the size, shape and the nature of the idea being explained.

Change in Voice : Teacher's behaviour in the classroom is predominantly verbal. So his voice plays a vital role in communication in the classroom. The voice of the teacher has several dimensions, namely, pitch, tone and speed. Constant use of the same level of pitch, tone and speed of the teacher makes his communication dull and drab. As a consequence, it affects adversely pupils' interest and attention in classroom transactions. In order to secure and maintain pupils' attention, a skilful teacher varies his voice. Sometimes he varies the speed of talking, while at others, he varies his pitch and tone. The teaching learning situation provides ample opportunities for introducing variation in voice in the natural course. For example, situations needing emphasis on particular words and phrases provides an opportunity for changes in tone and volum of the teacher. Sudden changes in tone and pitch of teacher's voice immediately attract pupils' attention.

Focusing :As pointed out earlier, a teacher secures pupils' attention indirectly, using behaviours such as body movements, gustures and change in voice. Sometimes, he secures their attention directly using behaviours that focus pupils' attention on a particular object, word, idea, rule or generalisation. Focusing can be done through three ways - verbal - focusing, gestural focusing and verbal-cum-gestural focusing. Verbal statements like 'Look here' and this is an important 'aspect' fall in the category of verbal focusing. When focusing is done through gestures, emphasising some points, it is termed as gestural focusing. When a teacher uses both verbal statements and gestures to indicate shapes, express emotions, to emphasize size, the focusing is known as verbal-cum-gestural focusing.

verbal-cum-gestural focusing.

Change in Interaction Pattern: Teaching is an interactive act. In the classroom, communication between teacher and pupils go s on const ntly as initiatory or responsive acts. This communication i; call d interaction. The interaction is broadly of two types - verbal and non-verbal. When the teacher or pupils communicate through gestures without talking, non-verbal interaction is said to have occured. When the exchange is through talking, verbal interaction operates in the classroom.

There can be a number of interaction patterns in the class-room - single channel interaction like lecturing where only the trrb talks in the classroom and pupils act as passive listeners only. There can be two way communication pattern wherein pupils also react to teacher's communication The teacher sometimes interacts with the class as a whole sometimes with sub-group in the class, and at other occasions interacts with individual pupil in the cl ss-room. Sometimes he puts a question to one pupil and without co-mmenting, he redirects the question to another pupil. In this way he encourages pupil-pupil interaction and thus involves a number f pupils in the discussion. (In the classroom there can, therefore, be three main patterns of interaction among pupils and teacher - (i) teacher-pupils or teacher- group interaction; (ii) teacher-pupil (iii) Pupil-pupil interaction. Continuing . :e pattern of interaction for prolonged duration in the classroom introduces

- - - monotony with consequent lack of interest and inattention of pupils. To secure and maintain pupil attention, the teacher should introduce variation in the interaction patterns which are listed below:

Teacher ----→ Pupils in the classroom

Teacher - - Pupils in the classroom

Teacher ----→ Sub-group in the clas room

Teacher ←-- Sub-group

Teacher --→ Individual pupil
Teacher ← Individual pupil
Pupil ----→ Pupil
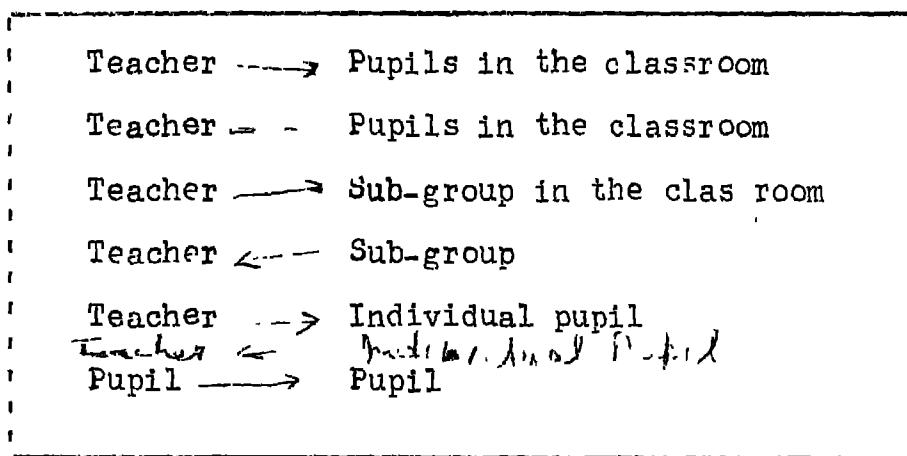
The shift from one pattern of interaction in the classroom to another is covered in this component of the skill of stimulus variation.

Pausing: Pausing stands for introducing silence during talk. Silenc has a language of its own and if it is used effectively, it hel s in securing and sustaining pupils' attention. A short pause before saying something important is an effective way of attracting pupils' cher to draw pupils' attention. A pause of three seconds duration is considered appropriate for this purpose. If the pause is unduly long, it loses its effectiveness to secure and maintain pupil attention.

Physical Pupil Participation: Pupils tend to prefer those lessons in which they get .opportunity for physical participation. It holds the interests and attention in the task in which they are engaged. Phys: participation can be in the form of handling apparatus, dramatization writing on the blackboard etc.

Aural-Visual Switching: A teacher while imparting knowledge to his pupils, uses either aural or visual medium. Constant use of one medium for imparting knowledge distracts pupils' attention from what he is saying or telling. In order to secure and maintain pupils' attention, a teacher should vary his medium through which he interacts with them. He should, therefore, bring variation in the medium i.e. from aural to visual or aural to aural-visual, or visual to aural etc. Change in the medium of interacting with pupils helps a teacher to secure their attention. Visual medium can be in the form of showing a chart, picture, graph, map, model, or in the form of drawing picutres, figures, graphs on the black-
board. Below is a teaching episode which illustrates the use of aural-visual switching component of the skill under discussion. In this example, a diagram only on the blackboard has been used as visual.

      Concept ....Centroid of a triangle

      Class...................VII

Teacher – You have already studied about the medians of a
        triangle. Today we shall study about the centroid of a

triangle. Let us take a triangle (aural) (Teacher goes to the black-board and draws a triangle ABC on it (Visual) . How can we draw medians of this triangle? (Aural)

Pupil - We should first find out the midpoints of all the three sides of the triangle ABC.

Teacher - Takes out a scale and goes to the blackboard (visual). He finds out the midpoints of the three sides AE, BC, and AC with the help of the scale (visual). How can we now have the medians? (aural)

Pupil - We may join each vertex of the triangle to the midpoints on the opposite side.

Teacher - (goes to the blackboard) He joins each vertex of the triangle to the midpoint of the opposite side (visual). Now you see that AD, BE, and CF are the medians of a triangle. Where do these three medians meet ? (aural)

Pupil - They meet at point G.

Teacher - Yes, the medians of a triangle meet at one point which which is G in this example. The point at which three medians of a triangle meet is called the centroid of the triangle. G is thus the centroid of the triangle ABC (aural)
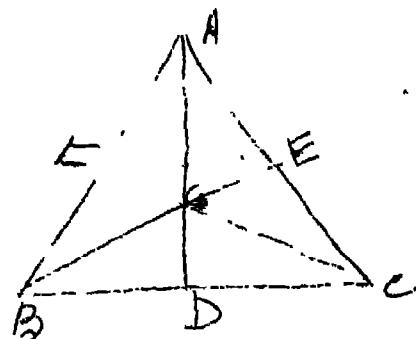
SKILL COMPONENTS: We have discussed the components of the skill of stimulus variation. These components of the skill are summarised below in the box.

```
┌─────────────────────────────────────────────────────────┐
│                                                           │
│    1) Movement           2) Gestures                      │
│                                                           │
│    3) Change in voice    4) Focusing                      │
│                                                           │
│    5) Change in the      6) Pausing                       │
│       interaction pattern                                 │
│                                                           │
│    7) Physical Pupil     8) Aural-visual                  │
│       Participation         switching                     │
│                                                           │
└─────────────────────────────────────────────────────────┘
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TRY YOURSELF: You have learnt about the specific components of

the skill of stimulus variation. Read the lesson

given below and identify the components of the

skill used by the microteacher. Write the components

against the teacher behaviour in the space provided

for the purpose.

MICRO LESSON PLAN

Concept .... Formation of Rainbow

Class VIII

Teacher - Some of you must have seen the rainbow. It is like

a bow (Teacher experesses the shape of the bow with the

help of his hands and goes to the blackboard). He

writes how and draws its shape on it. | ι.| It appears during

rainy season before₍ₙ₎   after rain. [‾ a ‾]

We shall study taday_____the phenomenon of

rainbow i.e. how is rainbow formed 3.   -   .   '

You have already studied the law of dispersion of

light. When a ray of light passes through a prism, it

gets dispersed into seven colours. What are these colours? ⌐4⌐

.   .   .   .

                        are
Pupil—   The colours‸(voilet, Indigo, Green; Blue, Orange
1
            Yellow and Red.

Teacher - Formation of rainbow is based on the law of dispersion

            of light (Teacher goes to the blackboard and writes dis-

            persion of light   ⌐5⌐   .   . _ :

            You know that water vapours are in the

            air (Teacher goes to the blackboard and writer water

            vapours and underlines these words to emphasise them.⌐6⌐

How   How do these remain suspended in the air? :

Pupil - There are dust particles in the air. Water vapours settle
2
            on these dust particles, and thus, remain suspended in the

            air.   ⌐7⌐   .   `

Teacher - Soon after the rain, if the sun rises, these suspended water

            vapours in the air act as prisms. The rays of the sun pass

            through these suspended vapours in the air. (Teacher
                                                    Through the
            stresses the words "these suspended vapours" and‸movement of ha

            and figures shows how the rays   . of the sun pass

            through these suspended water vapours ⌐8⌐   .

            (He then moves to the blackboard and writes suspended

vapours and draws diagram showing the rays of the
sun passing through water vapours. | 8A |

These rays then get dispersed into seven colours forming
a rainbow. Is the r-ainbow seen rainy on | ? | .

Pupil—No, sir, it is not seen always after rain?(_____?)

Teacher - Why is it not seen always ?| 10 | . .. .

Pupil - Its formation d-epends upon the presence of water
4
vapours in the air.

Teacher - (Asks another student) Is it correct ?| 11 | . .'

Pupil remains silent.

Besides the presence of water vapours in the air
its formation depends upon the angle at which the rays
of the sun pass through these vapours. If they pass .
through at critical angle, then only the rainbow is formed.

It is a rare phenomenon. Its formation, thus,
depends upon two factors i.e. the presence of water
varours in the air and passing of the sun rays at the
critical angle through these vapours. Now each of you
draw a diagram in your copy showing the formation of
a rainbow.| 12 | .

Pupils - All start working on the given assignment .

GUIDELINES   A teacher should keep in mind the following guidelines while making use of diffcrent components of the skill of stimulus variation for securing and sustaining pupils' attention in the classroc

Variation in teaching is desirable but it should not be at the cost of effective teaching. A teacher should, therefore, bring about variation in his teaching smoothly so that the flow of the lesson is not disturbed/interrupted.

A teacher must be clear about the purpose of the changes in stimuli which·he brings about. Meaningfulness should
     criteria for using the componentsto vary stimuli in
classroom ~~levelling~~ *teaching* .

A teccher should modify his use of variations in stimuli in the   , light of feedback he obtains from his pupils.

PLAN A MICROLESSON

Select a concept from the subject you teach,

Prepare a microlesson showing components of

the skill of stimulus variatior against

teacher behaviours in parenthesis.

CHECK YOUR ANSWERS

Below are given answers to the exercise done by you under Try Yourself.

1. Gestures, Aural-Visual Switching

2. Pausing

3. Pausing

4. Change in Interaction Pattern

5. Movement and Au al Visual Switching

6. Movement, Aural-visual Switching and Focusing

7. Change in Interaction Pattern

8. Change in Voice, Gestures

8A. Movement Aural Visual switching

9. Change in Interaction Pattern

10. Change in Interaction Pattern

11. Change in Interaction Pattern (pupil-pupil interaction)

12. Physical Pupil Participation.

Observation Schedule Cum Rating Scale of the Skill
of Stimulus Variation

Name of the Microteacher.........................Calss.............

Concept....................................Time ....

Duration.....................Session....Teach/Reteach...........

Date..............Name of the Supervisor....................

Instructions:

The observation schedule-cum-rating scale for the skill of sti-
mulus variation comprises three columns. The first column
indicates the tallies against different components of the skill.
The second column specifies the components of the skill. The
third one contains rating from one to seven against each of
the components. The rating scale indicates the adequacy of the
occurrence of the components. The points on the scale indicate
the following:-

1.   Poor_____   2. Not Satisfactory ____

3.   Nearly Satisfactory_____   4. Nearly Satisfactory___

5.   Fairly Satisfactory_____   6. Very Satisfactory_____

7.   Excellent_____

Tallies	Components	Rating	1	2	3	4	5	6	7
	Movement								
	Gestures								
	Change in Voice								
	Focusing								
	Change in Interaction Pattern								
	Pausing								
	Physical Pupil Participation								
	Aural-Visual Switching								

UNIT TWELVE: SKILL OF ILLUSTRATING WITH EXAMPLES

OBJECTIVES:

The can help in facilitating learning. What kind of examples should be used? How should examples be presented in the classroom. The answers to this question will be provided in this unit.

This unit presents meaning of the skill of illustrating with examples, specifies its components, and gives observation tools to be used for providing feedback to the trainees while practising the skill. After reading this unit, you are expected to realise the objectives given in the box.

O	Know the meaning of the skill of illustrating with examples.
O	Know the components of the skill of illustrating with examples.
O	Know the guidelines for the use of the skill of illustrating with Examples.
O	Acquire competence to develop a microlesson on the skill of illustrating with examples.
O	Know the use of the observation tools to be used for providing feedback to the trainees.

DEFINITION

Many a time , it happens that a teacher explains in the classroom
a scientific principle, or a mathematical rule or an abstract idea
and observes that his pupils are not comprehending it. In such a
situation, the teacher attempts to explain the concept   or generalisation
more and more but he fails in his attempt. The concept or genera-
lization require more than mere explanation for the pupils to understand.
This presents a challenge to the teacher . An unskilled teacher may
deal with this challenging situation by rebuking the pupil for being
inattentive in the classroom and asking them just to memorise the
concept or rule. But a skil ful teacher handles this situation in a
different way. He illustrates the scientific principle, generalization,
the abstract concept, or mathematical rule with the help of examples.
This makes them easier to understand by the pupils. Obviously, examples
are one of the most effective tools in the hands of the teacher to
make the concept or generalisation simple and easier for pupils to
understand. Thus, examples can be defined as "the observation or situ-
ations of occurrence of a concept or generalisation" and the skill of
illustrating with examples can be defined as the selection and pre-
sentation of the example, relevant to the concept or generalisation
be taught to the pupils so as to make it easier for them to under-
stand it". The skill examples of course, may be drawn from the
pupils' experiences.

COMPONENTS:

The next logical question is as to whether all examples
make the concept or generalisation easier to understand? If not, what

the

Past experiences and level of maturity of pupils of different age and grade levels, of different geographical regions or of different countries are always different. Knowledge of pupils' past experiences by a teacher is essential to formulate simple examples. A teacher should, therefore, be aware of the past experiences of his pupils.

How/ we can ensure whether or not his example is simple? What is the overt behaviour of the pupils which indicates that the examples used by the teacher are simple? Pupils responses act as the indicator to this effect. If pupils' responses to teacher's questions put to develop the example are correct, it is likely that his examples are based upon pupils' past experiences.

A teaching episode illustrating the formulation of a simple example to convey the meaning of a physical change to Class IX pupils is given below:-

Teacher -	Sunil, What happens to ice when it is put in a plate?	
Sunil-	It turns into water.	
Teacher-	What change inthe state of ice takes place when it changes into water?	
Sunil -	It changes from solid to liquid.	
Teacher-	'Does the shape of ice remain the same when it changes into water?	
Sunil -	Yes there is change in the shape.	
Teacher -	Is there any change in the composition of ice when it changes into water?	

Sunil-	No there is no change.
Teacher-	What happens to the solid waxwhen it is heated?
Rajeev -	It melts.
Teacher-	What change in the state of solid wax takes place when it melts?
Rajeev -	It changes from solid to liquid.
Teacher -	Is there any change in the composition of the solid when it melts?
Rajeev -	No change takes place.
Teacher -	What happens to iron rod when it is heated from one end?
Rita -	It gets hot and red.
Teacher -	What happens to the hot iron rod when it is allowed to cool ?
Rita -	It changes into its original position.
Teacher -	Is there any difference in the composition of hot and cool iron rod?
Rita-	Sir, there is no difference.
Teacher -	In all these examples, we see that there is a change in some of the physical properties such as colour, shape and the state of matter, but there is no change in the basic composition of the matter. Such a change is known as a physical change.

Formulating Interesting Examples

An interesting example is the one which arouses pupils' curiosity and interest. An interesting example secures and sustains pupils attention which plays an important role interesting is a relati term. An example which is interesting to VI grade pupils may not be

interesting to XII grade pupils. A teacher, while formulating
interesting examples, should always take into consideration the ~~~ ~~~
grade level and the level of maturity of pupils. Now the question
arises as to whehrer there any indicators of pupils' classroom
behaviour for infering that the examples used to illustrate a concept
or a generalisation are interesting. Pupils' attentive behaviour, his
enthusiasm, alertness, eagerness to participate in the classroom
transactions may be the possible indicators.

A teaching episode illustrating the formulation of an interes-
ting example to convey the meaning of 'Chemical Change' to grade
IX pupils is given below:-

Teacher -	Here is a match box. Rita come here, Take out a match stick and burn it.
Rita -	(She comes and burns the match stick)
Teacher -	Geeta, what do you see ?
Geeta -	Sir, the match stick is burning.
Teacher -	Rajesh, What has happened to the match stick after burning ?
Rajesh -	It has changed into ash.
Teacher -	Rajesh, can we change this ash into match stick again ?
Rajesh-	No
Teacher -	Do you find any difference in the composi- tion of match stick and ash?
Rajesh -	Yes, there is a difference in the composition of match stick and ash.

Teacher -	What happens to wood when it is burnt?
Manjeet -	It changes into ash.
Teacher -	Sunita, can we change this ash into wood again?
Sunita -	No, we can't.
Teacher -	Is the weight of the ash equal to that of wood?
Sunita -	It looks much less.
Teacher -	The change in which not only shape/size of a thing, but also its composition changes, is called a chemical change

You will find that a examples given above are interesting for teaching the chemical change. The interest is created through Rita's involvement in the action. Other pupils look curious and inquisitive as to what is happening. A teacher gives a number of examples for illustrating the concept.

Formulating Relevant Examples

An example is relevant when it is related to the concept being explained. A relevant example helps pupils to understand the concept. On the other hand, an irrelevant example distracts pupils. At times, it even confuses them. This hinders their understanding of the concept or generalisation. It is, therefore, essential that a teacher should use relevant examples.

Use of Appropriate Approach

There are two basic approaches which teachers use while using examples in teaching. These are inductive and deductive approaches. In the former approach, a concept of generalisation is derived after giving or eliciting a number of examples from pupils. An example of the use of inductive approach is for the teaching of generalisation that the sum of internal angles of a triangle is equal to 180° is given below:

Teacher -	Draw any triangle ABC in your exercise book. Measure its three internal angles. What is the sum of the angles $\angle A$, $\angle B$ and $\angle C$?
Pupil -	It's 180°
Teacher -	Draw another triangle XYZ. Measure its three internal angles. What is the sum of the angles $\angle X$, $\angle Y$ and $\angle Z$?
Pupil -	It's 180°
Teacher -	Draw another triangle P Q R. Measure its three internal angles. What is the sum of the angles $\angle P$, $\angle Q$ and $\angle R$?·
Pupil -	It's 180°.
Teacher-	What do you conclude from these examples?
Pupils -	The sum of the internal angles of a triangle is equal to 180°

The deductive approach implies stating the concept/generalisation first, and then, giving examples for illustrating it. An example using the deductive approach for teaching of the generalisation that the sum

of the three internal angles of a triangle is equal to 180°
given below:

Teacher -	States the generalisation "The sum of the three internal angles of a triangle is equal to 180° "Draw a triangle A B C. Measure its three internal angles. What is the sum of the three angles?	
Pupil -	It's 180°	
Teacher -	Draw another triangle X Y Z,. Measure its Three internal angles. What is the sum of the three angles?	
Pupil -	It's 180°	

Both the approaches, namely, inductive approach and the deduc·
approach have their own advantages and limitations. The inductive
approach helps pupils to understand the concept but it does not
help the teacher to verify whether or not the concept has been
understood by pupils. For this purpose, deductive approach is helpfu
It is, therefore, stressed that a teacher should make use of
both the approaches. He may formulate examples by eliciting respons
from pupils. Thereafter, he may help the pupils to derive the concep
generalisation. The next step is that he may clearly state the conc
generalisation. After stating the rule, he · can ask the pupils to
give examples related to the concept/generalisation.

You may recall that we have defined the skill of 'Illustrating with Examples' as "the selection and the presentation of examples relevant to the concept or generalization to be taught to the pupils so as to make it easier for them to understand it". We have also discussed the components of this skill. These components are:

0	Formulating simple examples
0	Formulating interesting examples
0	Formulating relevant examples
0	Use of Appropriate approach

GUIDELINES

The skill alongwith components was presented to you. You must have learnt the skill and its different components. This presentation was specially *meant* for training purposes. You will be interested to know the guidelines for the use of this skill in actual teaching situation.

Examples should not be used for the sake of examples. They should be used only when they facilitate understanding of the concept or principle being explained by the teacher.

The examples should not *be* unduly long, otherwise there is every possibility of the tree being lost in the wood. Unduly long examples are likely to distract the pupils' attention from the concept or principle being explained. Instead of facilitating, they are likely to interfere with pupils' learning.

MICOR LESSON PLAN

Content .... Island

Grade V

Teacher - Pupils, open your book of social studies on page 38. You see that there is map of India. Locate Andaman on this map. What do you find around Andaman ?

Renu - There is water on all the four sides of Andaman.

Teacher - Yes, there is water on all the four sides of Andaman. Now locate Nicobar on your map. What do you find around Nicobar?

Raju - There is water on all the four sides of Nicobar.

Teacher - Very good. Like Andaman, there is water on all the four sides of Nicobar. Locate Lakshdweep on the map. What do you find around Lakshdweep?

Ajeeta - There is water on all the four sides of Lakshdweep.

Teacher - What is the similarity among Andaman, Nicobar and Lakshdweep?

Manmeet - There is water on all the four sides.

Teacher - What do we call the places which are surrounded by water?

Sanjeet - No response.

Teacher - These places are called Islands. Thus, an island is a piece of land which is surrounded by water. Can you locate any other island on your map?

Anil - Minicoy.

Teacher - Very good. Raju, can you locate another island on the ma

Raju - Ceylon.

OBSERVATION SCHEDULE

Name of the student teacher ....Class............

Concept....'.................................:............Date............

Duration.................Session..........Teach/Reteach

Supervisor.........................

Instructions

The observation schedule for the skill of 'Illustrating with Examples' comprises six columns. The first indicates the serial number of the example. The second to fourth columns stand for indicating whether the example is simple, interesting and relevant. The fifth column specific^s the approach used by the microteacher i.e. inductive approach/deductive approach in illustrating the concept/generalisation. The sixth column stands for pupil involvement in formulating the examples.

Ex. No.	Simple	Interesting	Relevant	Approach	Pupil invol- vement(✗ ✔)
1	2	3	4	5	6
			I	D	

I. stands for Inductive approach
D stands for Deductive approach
✗ stands for noninvolvement of pupils in developing the example.
✔ stand for involvement of pupils in developing the example(✔)

RATING SCALE FOR THE SKILL OF ILLUSTRATING WITH EXAMPLES

Name of the student teacher ....Class.........

Concept ....Date...............Duration..........

Session..........Teach/Reteach.........Supervisor..........

The rating scale given below for the skill of 'Illustrating with Examples' comprises two columns. The first indicates the components of the skill and the second column indicates rating from one to seven against each of the components. The points or the rating scale indicate the following:

1. Poor   2. Not satisfactory
3. Nearly Satisfactory
4. Satisfactory
5. Fairly Satisfactory
6. Very Satisfactory
7. Excellent.

An observer should indicate his rating against each component by encircling the number, which represents his assessment

Components	Rating						
	1	2	3	4	5	6	7
Examples used were simple	1	2	3	4	5	6	7
Examples used were interesting.	1	2	3	4	5	6	7
Example used were relevant	1	2	3	4	5	6	7
Approach used was appropriate	1	2	3	4	5	6	7
Pupil Involvement was adequate	1	2	3	4	5	6	7